②

with a soaking time of 30 minutes. The specimens of chrome steel were placed in double quartz evacuated ampoules and heated at 1200--1220° for 2.5--3.0 hours. After quenching in a cooled alkali solution, both steels preserved the austenite structure. The martensite was obtained in cooling of the specimens in liquid nitrogen.

In the study of strain aging it is necessary to exclude the processes of migration of carbon to the defects formed in the martensite transformation. It was demonstrated that at room temperature such processes end approximately after three days, although the most intensive occurrence is noted in the first 50--100 minutes of soaking [4, 5]. Therefore, to achieve a different degree of completion of the processes of migration of carbon to the defects of martensite transformation the specimens, after cooling in liquid nitrogen, were soaked at room temperature for various times, from 1 hour to 1 month. The concentration of carbon in the solid solution was varied by means of tempering the martensite with a duration of 1 hour in a range of 50--400°.

For the introduction of fresh defects, the specimens were subjected to plastic straining by compression (steel 90N14 by 15%, 80Kh13 by 10%) in liquid nitrogen. A special attachment made it possible to strain three specimens simultaneously, each having a diameter of 7 millimeters and a height of 10 millimeters.

The variations of the thermal effects of strain aging were performed at a negative temperature of -18°C, that is, in conditions when the processes of decay with the formation of carbide are known to be excluded. The methodology did not differ from the one described in reference [9].

In the measurement of the thermal effects in isothermic conditions, the specimens must be heated from the temperature of liquid nitrogen to the temperature of the calorimeter. In this case it is important that the heating be performed rapidly and that the temperature of the specimen not exceed -18°. A warming regime corresponding to the requirements indicated was selected in preliminary experiments.

The sequence of the performance of the experiments was as follows. Hardening and cooling in liquid nitrogen--soaking at room temperature or tempering--straining in liquid nitrogen--measurement of the thermal effect of aging. To exclude the possibility of an uncontrolled occurrence of the process of the migration of carbon to the defects before the beginning of the measurement, the specimens, after straining and after all other intermediate operations, were stored in liquid nitrogen. The quantity of

USSR

UDC 616.36-092.9-085.849.19

LAGUNOVA, I. G., SAVCHENKO, Ye. D., GARVEY, N. N., LIKHOVETSKAYA, L. L., SHAMAYEVA, G. G., KLIMOV, A. D., and MOGUTOV, V. I., Moscow, Scientific Research Institute of Roentgenology and Radiology, Ministry of Health RSFSR

"The Effects of Neodymium Laser Irradiation on the Rat Liver"

Leningrad, Voprosy Onkologii, Vol 18, No 1, 1972, pp 91-94

Abstract: Single irradiation of a 2 by 5 mm abdominal area over the rat liver with pulsed neodymium laser rays with initial energy of 100-200 joules and incident density of 1000-4000 joules/cm^2 causes local injury to the liver tissue, ranging from degenerative changes to complete necrosis. Destruction of blood vessels occurs in the central zone and paralytic vasodilation with edema in the peripheral zone. Proliferation of fibroblasts begins after 5 days, and a capsule is formed around the injured area. Connective tissue cells and bile capillaries grow toward the necrotic center along with blood vessels. Eventually, hepatocytes, lymphocytes, and macrophages appear. On the 20th day, the necrotic area is filled with patches of new hepatic parenchyma. After stronger irradiation (3000-4000 joules/cm^2), the injury is more severe and recovery slower.

1/1

UDC 669.15-194:669.26

VINTAYKIN, Ye. Z., ZVIGINTSEV, N. V., KOLONTSOV, V. Yu. and MOGUTNOV, B. M., Central Scientific Research Institute of Ferrous Metallurgy imeni I. P. Bardin, Institute of Metal Studies and Physics of Metals, Ural Polytechnical Institute imeni S. M. Kirov

"Stratification in the Martensite of Kh13N10 and Kh13N8Yu Steels"

Sverdlovsk, Fizika Metallov i Metallovedeniye, Vol 30, No 6, Dec 70, pp 1245-1249

Abstract: Aging of martensite was investigated in Fe-Cr-Ni steels by measuring the electrical resistance, thermal emf, specific volume, hardness, and low-angle neutron scattering. The existence of stratification in the investigated steels was established. Low-temperature aging of the Fe-Cr-Ni martensite causes stratification of the solid solution. Nickel and aluminum intensify the stratification process, and strengthening of Kh13N8Yu maraging steel is due to stratification of the Fe-Cr-Ni matrix and the formation of intermetallic compounds.

1/1

USSR

MOGYR'OVA, L. A., Kiev Scientific Research Institute of Epidemiology, Microbiology, and Parasitology, Kiev

"Polysaccharide-Containing Fractions of Leptospira and Prospects of Their Application for the Genus-Specific Diagnosis of Leptospirosis"

Kiev, Mikrobiologicheskiy Zhurnal, Vol 33, No 6, Nov/Dec 71, pp 754-755

Abstract: The polysaccharide-containing fractions of Leptospira of the saprophytic strain BSh and two pathogenic strains (akijami A and bataviae) were isolated by methods based on treatment of the leptospiral biomass by Fuller's procedure as modified by E. P. Bernasovs'ka, heating at 100°C in distilled water, heating at 100°C in an 0.02 N NaOH solution, autoclaving at 120°C, and ultrasound disintegration. The polysaccharide-containing antigen isolated from the L. bataviae strain by Fuller's method showed the highest sensitivity in the passive hemagglutination reaction and its hemolytic modification (the HT test). Application of this antigen in the testing of sera of patients with leptospirosis, persons who had recovered from leptospirosis, persons with diseases of a non-leptospirosis etiology, healthy subjects, and laboratory and farm animals demonstrated its high value as a genus-specific agent for the diagnosis of leptospirosis. In the testing of the sera, the reaction of

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USSR

MOGYR'OVA, L. A., Mikrobiologicheskiy Zhurnal, Vol 33, No 6, Nov/Dec 71, pp 754-755

passive hemagglutination and the HT test gave more precise and reliable diagnostic results than the microagglutination-lysis reaction (RMAL).

2/2

1/2 017 UNCLASSIFIED PROCESSING DATE--27NOV70

TITLE--POTENTIAL BARRIER AND OSCILLATORY ACTIVATION IN FOUR CENTER EXCHANGE REACTIONS -U-

AUTHOR--MOIN, F.B.

M

COUNTRY OF INFO--USSR

SOURCE--DOKL. AKAD. NAUK SSSR 1970, 191(4), 872-5

DATE PUBLISHED--------70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--EXCHANGE REACTION, MOLECULAR KINETICS, OSCILLATION

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--3003/1482 STEP NO--UR/0020/70/191/004/0872/0875

CIRC ACCESSION NO--AT0130411

UNCLASSIFIED

2/2 017

CIRC ACCESSION NO--AT0130411 UNCLASSIFIED PROCESSING DATE--27NOV70

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE MECHANISM IS STUDIED FOR THE OSCILLATORY ACTIVATION IN 4-CENTER EXCHANGE REACTIONS AND IT WAS CONCLUDED THAT THE POTENTIAL BARRIER OF THE REACTION CAN NOT BE HIGHER THAN THE CRIT. VIBRATIONAL LEVEL. THE EXPTL. DATA ARE TABULATED ON THE KINETICS OF SOME EXCHANGE REACTIONS AND THE ENERGY OF THE CRIT. VIBRATIONAL LEVELS. THE POTENTIAL BARRIERS CALCD. ON THE BASIS OF THE ADDITIVITY RULE ARE IN GOOD AGREEMENT WITH THE ENERGIES OF THE CRIT. VIBRATIONAL LEVELS.

UNCLASSIFIED

USSR

UDC 621.314.58(088.8)

POLEVIK, YU. A., GASPAROV, R.G., MOIN, V.S.

"Device For A-C Voltage Regulation"

USSR Author's Certificate No 261536, filed 19 Jan 68, published 25 May 70 (from RZh--Elektronika i yeye primeneniye, No 12, December 1970, Abstract No 12B518P)

Translation: For simplification and an increase of efficiency, a series network [tsepochka] is connected into the diagonal of an a-c rectifying bridge. The network consists of a choke coil and the primary winding of a pulse transformer, the secondary winding of which is connected into the control circuit of a thyristor. The network forms a control pulse for the thyristor in the negative half-cycle of the feed voltage, which assures equality of the conduction angles in both half-cycles and absence of d-c components in the load. 1 ill. A. Tarasov.

1/1

USSR

UDC: 541.768

MOISEYCHENKO, V. S., Leningrad Polytechnical Institute imeni M. I. Kalinin

"An Acceleration Meter"

Moscow, Otkrytiya, Izobreteniya, Promyshlennyye Obraztsy, Tovarnyye Znaki, No 21, Jul 72, Author's Certificate No 344358, Division G, filed 6 Mar 70, published 7 Jul 72, p 182

Translation: This Author's Certificate introduces an acceleration meter which contains a housing, an inertial mass, an inertial mass displacement converter, and an inverse magnetoelectric converter. As a distinguishing feature of the patent, the frequency range of measurable accelerations is extended; the inertial mass is made in the form of a tension wire located in a constant magnetic field to which the plates of a Hall pickup are fastened. The plates are connected to an amplifier. Connected to the output of the amplifier are the ends of the tension wire insulated from the housing.

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1/2 042

UNCLASSIFIED PROCESSING DATE--11DEC70

TITLE--EFFECT OF OXIDES ON THE STRENGTH OF WELDED COMBINATIONS OF AMG6 ALLOY PRESSURE VESSELS -U-

AUTHOR-(04)-LUKYANOV, V.F., MOISEYENKO, V.P., FOMIN, V.N., MOISEYENKO, I.G.

COUNTRY OF INFO--USSR

M

SOURCE--MOSCOW, SVAROCHNOYE PROIZVODSTVO, NO. 6, 1970, P 24

DATE PUBLISHED--------70

SUBJECT AREAS--MECH., IND., CIVIL AND MARINE ENGR, MATERIALS

TOPIC TAGS--ALLOY WELDING, WELD DEFECT, ALUMINUM OXIDE, PRESSURE VESSEL, OXIDE FILM/(U)AMG6 ALLOY, (U)UDR7 WELD TEST EQUIPMENT

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY FICHE NO----FD70/605041/B08 STEP NO--UR/0135/70/000/006/0024/0024

CIRC ACCESSION NO--AP0142718

UNCLASSIFIED

2/2 042

CIRC ACCESSION NO--AP0142718 UNCLASSIFIED PROCESSING DATE--11DEC70

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE HIGH AFFINITY OF ALUMINUM TO OXYGEN AND LOCAL CONCENTRATED HEATING BEFORE THE WELDING BATH RESULT IN FAVORABLE CONDITIONS FOR THE FORMATION OF OXIDE FILMS ON THE SURFACES TO BE WELDED. THESE FILMS ADVERSELY AFFECT THE STRENGTH OF THE WELD BUT THEIR EFFECT VARIES WITH A NUMBER OF FACTORS. THE PURPOSE OF THE AUTHORS IS TO DETERMINE THE EFFECT OF THE OXIDES ON THE WELD UNDER STATIC LOAD AND UNDER CONDITIONS OF BIAXIAL EXPANSION. TESTS WERE CONDUCTED ON THREE GROUPS OF SPECIMENS OF AMG6 ALLOY 3 MM THICK BY THE METHOD OF HYDROSTATIC BUCKLING IN A UDR 7 MACHINE. THE STRENGTH OF THE WELD WAS ESTIMATED FROM THE AMOUNT REAL TENSION ON THE METAL UNTIL THE WELD JOINT GIVES WAY. THE AUTHORS CONCLUDE THAT, IN WELDED COMBINATIONS OF VESSELS UNDER PRESSURE, THERE IS NO NEED FOR STRICT LIMITATIONS ON THE LENGTH OF THE SEAM SECTION WITH THE OXIDE, BUT THE DEPTH OF THE DEFECT SHOULD NOT EXCEED 15-20PERCENT OF THE METAL SEAM THICKNESS.

FACILITY: RISKHM, ROSTOV-ON-DON. FACILITY: GKSKB ENERGOMASHA, ROSTOV-ON-DON.

UNCLASSIFIED

1/2 025 UNCLASSIFIED PROCESSING DATE--30OCT70

TITLE--PECULIARITIES OF THE FORMATION OF WELDS IN WELDING THE STRUCTURES FABRICATED FROM AMG6 ALLOY -U-

AUTHOR-(02)-MYSKOVA, A.P., MOISEYENKO, I.G.

M

COUNTRY OF INFO--USSR

SOURCE--MOSCOW, SVAROCHNOYE, PROIZVODSTVO, NO 3, 1970, P 27

DATE PUBLISHED--------70

SUBJECT AREAS--MATERIALS, MECH., IND., CIVIL AND MARINE ENGR

TOPIC TAGS--ALUMINUM MAGNESIUM ALLOY, STRESS CONCENTRATION, BIBLIOGRAPHY, ALUMINUM WELDING/(U)AMG6 ALUMINUM MAGNESIUM ALLOY

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1999/1307 STEP NO--UR/0135/70/000/003/0027/0027

CIRC ACCESSION NO--AP0123266

UNCLASSIFIED

2/2 025 UNCLASSIFIED

CIRC ACCESSION NO--AP0123266 PROCESSING DATE--30OCT70

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. IT HAS BEEN ESTABLISHED THAT IN WELDING THE STRUCTURES FABRICATED FROM AMG6 ALLOY THERE OCCUR ON THE REVERSE OF THE WELD TECHNOLOGICAL STRESS CONCENTRATORS WHICH DECREASE THE WELD STRENGTH BY 15-20PERCENT. A POSSIBILITY WAS SHOWN OF THE INCREASE OF THE STABILITY OF STRENGTH INDICES BY IMPROVING THE FORMATION OF THE PASSAGE FROM THE ROOT OF WELD TO THE BASE METAL.

UNCLASSIFIED

USSR

UDC: None

LUBENETS, V. D., PLASTININ, P. I., MOISEYENKO, L. A., and GRIGOROV, V. P.

"Rotor-Piston Compressor"

Moscow, *Otkrytiya, izobreteniya, promyshlennyye obraztsy, tovarnyye znaki*, No 33, 1972, p 77, Author's certificate No (11)357371

Abstract: The compressor contains a three-sided rotor with a cylindrical valve, turning inside a body with an epitrochoid inner surface. The rotor and its valve produce a step-wise cylindrical flow to increase the compressor's capacity. A diagram of the device is provided.

1/1

MOISEYENKO, V. P.

JPRS 56003

16 May 1972

UDC 621.791.011:669.14.018.44

DEVELOPMENT OF CRACKS DURING WELDING OF EP199 ALLOY

[Article by Candidate of Technical Sciences V. P. Moiseyenko, Engineer L. I. Mirgorodskiy, Engineer O. G. Krasnov, Engineer O. A. Samokhvalova; Moscow, Svarochnoye Proizvodstvo, Russian, No 8, 1970, pp 28-29]

Thermally hardened nickel-based EP199 alloy, alloyed with chromium, titanium and molybdenum, is used extensively for welded assemblies intended for operation in aggressive media at temperatures up to 950°C. According to operating conditions cracks are not permitted to form in weld seams. Welding experience indicates, however, that the most frequent defects are microcracks in the near-seam zone, appearing at the points of closing of round and annular seams, and also at the intersection of round seams with longitudinal seams. Their elimination by auxiliary welding increases weld deformations and the amount of labor involved in manufacturing the products.

One of the causes of microcracks in the near-seam zones of such seams, as is known [1], is the low plasticity of zones of the metal enriched with eutectic and their inadequate resistance to the formation of cracks as the seam cools.

The total amount of eutectic produced and the character of its distribution depend on the degree of overheating of the metal during welding and the time it spends at the dangerous temperature, i.e., on the thermal cycle of welding.

Round heads were formed for the purpose of selecting the optimum method of welding assemblies of EP199 alloy. The round form made it possible to simulate the unfavorable conditions of heating of full-scale seams. The methods and conditions of argon-arc welding with a nonfusing electrode are presented in Table 1. Metallographic analyses of templates cut from various parts of the seam (Figure 1) revealed the amount of eutectic formed, its distribution in the various parts of the near-seam zone and its influence on the formation of cracks.

The presence of a eutectic component of linear character was noted at a distance of 0.01-0.025 mm from the line of fusion in all specimens.

1/2 042 UNCLASSIFIED PROCESSING DATE--11DEC70
TITLE--EFFECT OF OXIDES ON THE STRENGTH OF WELDED COMBINATIONS OF AMG6
ALLOY PRESSURE VESSELS -U-
AUTHOR-(04)-LUKYANOV, V.F., MOISEYENKO, V.P., FOMIN, V.N., MOISEYENKO,
I.G.
COUNTRY OF INFO--USSR

SOURCE--MOSCOW, SVAROCHNOYE PROIZVODSTVO, NO. 6, 1970, P 24

DATE PUBLISHED--------70

SUBJECT AREAS--MECH., IND., CIVIL AND MARINE ENGR, MATERIALS

TOPIC TAGS--ALLOY WELDING, WELD DEFECT, ALUMINUM OXIDE, PRESSURE VESSEL,
OXIDE FILM/(U)AMG6 ALLOY, (U)UDR7 WELD TEST EQUIPMENT

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY FICHE NO-----FD70/605041/B08 STEP NO--UR/0135/70/000/006/0024/0024

CIRC ACCESSION NO--AP0142718
UNCLASSIFIED

CIRC ACCESSION NO--AP0142718

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE HIGH AFFINITY OF ALUMINUM TO OXYGEN AND LOCAL CONCENTRATED HEATING BEFORE THE WELDING BATH RESULT IN FAVORABLE CONDITIONS FOR THE FORMATION OF OXIDE FILMS ON THE SURFACES TO BE WELDED. THESE FILMS ADVERSELY AFFECT THE STRENGTH OF THE WELD BUT THEIR EFFECT VARIES WITH A NUMBER OF FACTORS. THE PURPOSE OF THE AUTHORS IS TO DETERMINE THE EFFECT OF THE OXIDES ON THE WELD UNDER STATIC LOAD AND UNDER CONDITIONS OF BIAXIAL EXPANSION. TESTS WERE CONDUCTED ON THREE GROUPS OF SPECIMENS OF AMG6 ALLOY 3 MM THICK BY THE METHOD OF HYDROSTATIC BUCKLING IN A UDR 7 MACHINE. THE STRENGTH OF THE WELD WAS ESTIMATED FROM THE AMOUNT REAL TENSION ON THE METAL UNTIL THE WELD JOINT GIVES WAY. THE AUTHORS CONCLUDE THAT, IN WELDED COMBINATIONS OF VESSELS UNDER PRESSURE, THERE IS NO NEED FOR STRICT LIMITATIONS ON THE LENGTH OF THE SEAM SECTION WITH THE OXIDE, BUT THE DEPTH OF THE DEFECT SHOULD NOT EXCEED 15-20PERCENT OF THE METAL SEAM THICKNESS.

FACILITY: RISKHM, ROSTOV-ON-DON. FACILITY: GKSKB ENERGOMASHA, ROSTOV-ON-DON.

AA0040708 Moyseyenko, Ye.G. UR 0482

Soviet Inventions Illustrated, Section I Chemical, Derwent, 3/70

236222 POINT MICRO-WELDER contains a cylinder 1 with a wire 4, and a clamping device 8. In order to reduce the possibility of ruptures of wire by eliminating the dynamic loads, which appear in the beginning of the unwinding of wire from the cylinder and in the process of it, the clamping device has a rack 7 which interacts with the friction cylinder 3. The friction cylinder is fixed on the same axis as the cylinder, and is prevented from turning backwards by a ratchet 2. The diameter of the cylinder is equal to the diameter of the friction cylinder. 29.5.67. as 1159581/25-7. V.M.MAKEDONSKII et alia. E.O.Paton electrowelding Inst. (16.6.69.) Bul.6/ 24.1.69. Class 49h. Int.Cl. B.3k.

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19750343

AA0040708

AUTHORS: Makedonskiy, V. M.; Movlyan, G. A.; and
Moyseyenko, Ye. G

Institut Elektrosvarki imeni Ye. O. Patona

19750344

2/2

USSR UDC 547.779.+547.78

AKHREM, A. A., MOISEYENKOV, A. M., ANDABURSKAYA, M. B., and STRAKOV, A. Ya.,
Institute of Organic Chemistry imeni N. D. Zelinskiy, Academy of Sciences
USSR, and Riga Polytechnic Institute, Riga

"1-Amino-3,6,6-trimethyl-4-oxo-4,5,6,7-tetrahydroindazole"

Riga, Izvestiya Akademii Nauk Latviyskoy SSR, Seriya Khimicheskaya, No 6, 1970, pp 740-741

Abstract: 1-Amino-3,6,6-trimethyl-4-oxo-4,5,6,7-tetrahydroindazole (I) with m. pt. 130-1° was prepared by boiling 3,6,6-trimethyl-4-oxo-4,5,6,7-tetrahydrobenz(d-1,2)isoxazole with hydrazine hydrate and pyridine. By boiling I in acetic anhydride, 1-N-acetylamino-3,6,6-trimethyl-4-oxo-4,5,6,7-tetrahydroindazole (m. pt. 188-9°) was obtained. On boiling of equimolar amounts of I and benzaldehyde in EtOH, formation of 1-N-benzalamino-3,6,6-trimethyl-4-oxo-4,5,6,7-tetrahydroindazole (m. pt. 101-3°) took place. Derivatives of 4,5,6,7-tetrahydroindazole were found to exhibit a wide range of physiological activity; 1-amino derivatives of this compound may be of interest from this standpoint.

1/1

USSR

UDC 542.91:547.833.547.752:547.94

AKHREM, A. A., MOISEYENKOV, A. M., KRIVORUCHKO, V. A., CHERNOV, YU. G., and MALISHEVSKII, V. S., Institute of Organic Chemistry Imeni N. D. Zelinskii Acad. Sc. USSR, and Institute of Physical Organic Chemistry Acad. Sc. USSR

"Synthesis of Benzo [a]-and Indolo[a]quinolizines: a new Approach to the Total Synthesis of Some Isoquinoline and Indole Alkaloids"

Moscow, Izvestiya Akademii Nauk SSSR, Seriya Khimicheskaya, No 10, Oct 72, p 2376

Abstract: Isomethines (I,II) react with acetyl-δ-lactone (IV) to yield a series of lactams (V-VII) which can be converted to corresponding pyranolactams (VIII-X), and dehydrated to pyridones (XI-XII). Compound (V) was converted in 5 steps to tetrahydroprotoberberine (XIII).

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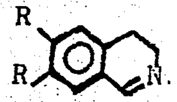
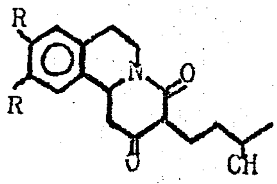
USSR

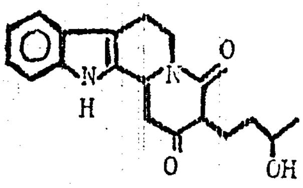
AKHREM, A. A., et al., Izvestiya Akademii Nauk SSSR, Seriya Khimicheskaya, No 10, Oct 72, p 2376



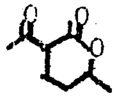
A(I) R=H
(II) R=OMe



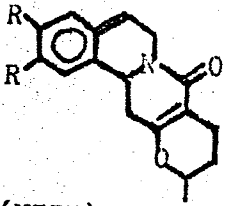
(V) R=H, m.p. 178-180°
(VI) R=OMe, m.p. 183-185°



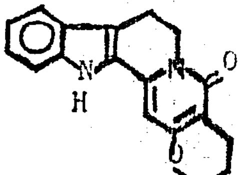
(VII) ·MeOH
m.p. 196-198°



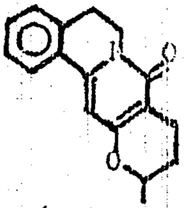
(IV)



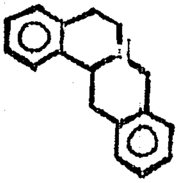
(VIII) R=H, m.p. 117-118°
(IX) R=OMe, m.p. 143-144.5°



(X), M.p.
263-265°



(XI), m.p.
154-156°

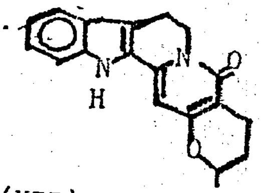


(XIII)

2/3

USSR

AKHREM, A. A., et al, Izvestiya Akademii Nauk SSSR, Seriya Khimicheskaya, No 10, Oct 72, p 2376



(XII), m.p. 341-344°

3/3

1/2 011 UNCLASSIFIED PROCESSING DATE--23OCT70

TITLE--LIQUID PHASE OXIDATION OF 1,ACETYL,1,CYCLOPENTENE -U-

AUTHOR-(03)-AKHREM, A.A., MOISEYENKOV, A.M., POSELENOV, A.I

M

COUNTRY OF INFO--USSR

SOURCE--IZV. AKAD. NAUK SSSR, SER. KHIM. 1970, (3), 699-700

DATE PUBLISHED-------70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--OXIDATION, ALKENE, CYCLIC GROUP, KETONE, CHEMICAL SYNTHESIS

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1999/1778 STEP NO--UR/0062/70/000/003/0699/0700

CIRC ACCESSION NO--AP0123575

UNCLASSIFIED

2/2 011 UNCLASSIFIED PROCESSING DATE--23OCT70

CIRC ACCESSION NO--AP0123575

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. FROM LIQ. PHASE OXIDN. OF 1,ACETYLCYCLOPENTENE BY O IN ME SUB2 CO IN THE PRESENCE OF MN ROSINATE AND CO STEARATE THERE WAS FORMED A COMPLEX MIXT. WHICH YIELDED A LOW YIELD OF 3,ACETYL,2,CYCLOPENTEN,1,ONE, M. 57.5-8.5DEGREES.

FACILITY: INST. ORG. KHIM. IM. ZELINSKOGO, MOSCOW, USSR.

UNCLASSIFIED

USSR UDC 620.18

KULIKOVA, L. V. (Engineer), LANSKAYA, K. A. (Doctor of Technical Sciences), and MOISEYEV, A. A., Central Scientific Research Institute of Ferrous Metallurgy imeni I. P. Bardin; All-Union Institute of Heat Engineering imeni F. E. Dzerzhinskiy

"Changes in the Structure and Properties of Certain Austenitic Steels Under Service Conditions"

Moscow, Teploenergetika, No 1, Jan 72, pp 43-46

Abstract: The service reliability study involved E501, EP399, and EP400 iron-chromium-nickel steels tested within 670-720°C. The stability of the structure and the properties served as the principal criterion. The changes in both structure and property levels as a function of service length during a major overhaul period (generally, once a year) were studied on the branch pipes of an experimental superheater coil. The test pieces were analyzed for their mechanical properties, microstructure, composition of electrolytic deposits, hardness and microhardness and lattice parameters of the solid solution. The study is detailed and the data are presented in tables and curves. Of all tested steels, EP400 demonstrated the highest structural

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USSR

KULIKOVA, L. V. (Engineer), et al, Teploenergetika, No 1, Jan 72, pp 43-46

and property stabilities, while EP399 was least stable in both respects. In EP501 steel, the structural and property stabilities were lower than in EP400; however, the mechanical properties of EP501 after 30,000 hrs of service appeared to be higher. The high-temperature strength of EP501 and its fairly satisfactory structural and property stabilities make this steel qualified for more extensive service test in real heat engineering units. Despite its satisfactory behavior in service, EP400 seems to lack the necessary workability. The test data on EP399 steel have so far been inconclusive and a longer service testing period is suggested. (2 illustrations, 4 tables, 3 bibliographic references).

2/2

USSR UDC 519.95

SHEVYAKOV, N. N., BRYUKHANOV, V. A., MOISEYEV, A. A., MOISEYEV, S. G., and SULTAN

"Evaluation of the Coefficient of Technical Utilization of Complex Automatic Lines by the Method of Statistical Modeling"

Moscow, Avtomatizatsiya Operatsiy Proyektirovaniya Protsessov Mashinostroyeniya (Automation of Operations in the Design of the Processes of Machine Building), edited by V. I. Dikushin, "Nauka," 1970, pp 123-134

Abstract: One of the most important problems that arises in designing automatic lines with a complex structure is determination of the coefficient of technical utilization. Existing methods of analytical computation are based on a number of assumptions which make it possible to decrease the order of the system of differential equations involved but which introduce a divergence from the real coefficient of technical utilization. In the present article, an algorithm for investigating this coefficient for a complex automatic line is suggested. The algorithm, which is based on the method of statistical modeling on a computer (Monte-Carlo method), makes it possible to eliminate a number of assumptions and to reduce a variety of problems to a small number of general-purpose computational procedures.

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USSR

SHEVYAKOV, N. N., et al., Avtomatizatsiya Operatsiy Proyektirovaniya Protsessov Mashinostroyeniya (Automation of Operations in the Design of the Processes of Machine Building), edited by V. I. Dikushin, "Nauka," 1970, pp 123-134

As an example, the statistical modeling method is applied to a single-flow, interlinked automatic line with one adjuster and which consists of n aggregates. After briefly describing the mathematical model which they adopted and the basic assumptions which it necessitated, the authors present and explain a flowchart of the modeling algorithm.

Next, on the basis of their mathematical model, they developed an algorithm for investigating the coefficient of technical utilization of an automatic line consisting of n flows, q segments, and a adjusters. A two-page flowchart of the algorithm is presented. In order to verify the algorithm as a whole, the authors considered systems for which it is possible to find precise analytical solutions. The analytical solutions and the results obtained by modeling diverged at most by one to three percent.

2/2

USSR UDC 62-135-226.3:534.1

ALEKSEYEV, S. A., MOISEYEV, A. A., MITYUSHKIN, YU. I.

"Effect of the Nonradial Position of Guide Vanes on the Amplitude of Perturbing Forces in Axial Turbines"

Tr. Leningr. korablestroit. in-ta (Works of Leningrad Shipbuilding Institute), 1970, No. 70, pp 3-9 (from RZh-Turbostroyeniye, No 8, Aug 71, Abstract No 8.49.31)

Translation: Analysis of resonance high-frequency vibrations of turbine blades shows that the magnitude of dynamic bending stresses in the root section of the working blade at resonance vibrations can be reduced by lowering the magnitude of the pulse force and by reducing the bending stresses from the static action of gas forces. One of the ways of reducing static stresses of bending is to use stages with the absence of a radial gradient of static pressure, and another is to use a nonradial positioning of the guide vanes with respect to the output edges. The effect of the inclination of the guide vanes on the amplitude of the perturbing forces was investigated. The amplitude of perturbing forces acting on the working blade is considerably reduced under nonradial positioning of the

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ALEKSEYEV, A. S., et al, Tr. Leningr. korablestroit. in-ta, 1970, No. 70, pp 3-9

output edges of the guide vanes. To lower the impulse of the perturbing force acting on the working blade, any inclination of the output edges of the guide vanes has a positive effect at all harmonics of the perturbing force. Simultaneously, a deflection of the guide vanes with a concavity toward the axis of the turbine leads in addition to a decrease in the bending stresses from the static action of gas forces. The amplitude of high harmonics is sharply reduced at small angles of inclination and with an increase in the ratio of the magnitude of the angle of the output flow from the nozzle at the root of the working blade to the magnitude of the step angle of the guide vane, the amplitude changes sinusoidally with a maximum amplitude several times less than the amplitude of the perturbing forces with a radial positioning of the output edges of the guide vanes. 5 ill., 7 ref. L. P. D.

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USSR

UDC 62-135-154-253.5:534.1:539.4.001.6

MOISEYEV, A. A., MIYUSHKIN, YU. I., ALEKSEYEV, S. A., FILATOV, V. I.

"Modernization of an Air Stand to Study the Vibration Strength of the Working Blades of an Axial Turbine"

Tr. Leningr. korablestroit. in-ta (Works of Leningrad Shipbuilding Institute), 1970, No. 70, pp 79-88 (from RZh-Turbostroyeniye, No 8, Aug 71, Abstract No 8.49.35)

Translation: It is reported that a modernization was carried out on the VS-1 stand for studying dynamic stresses of bending in working blades of axial turbines under resonance oscillations at the Laboratory of Ship Turbines of Leningrad Order of Lenin Shipbuilding Institute. The modernization of the stand consisted of replacing the induction brake with an air brake and in equipping the stand for simultaneous study of vibration stresses in the working blades and the characteristics of the experimental turbine. Adjustment tests completed on the stand showed that with a working grid of circular cylinders the stand can operate in a turbine regime and with a working grid of

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MOISEYEV, A. A., et al, Tr. Leningr. korablestroit. in-ta, 1970, No. 70, pp 79-88

plates both turbine and compressor regimes are possible. Studies made on the vibrations of cylinders and plates under conditions of a turbine stage showed that the modernization of the stand makes it possible to carry out aerodynamic experiments simultaneously with tensometric studies of the dynamic strength of elastic rods (cylinders of plates and working blades). These experiments make it possible to determine qualitatively the structure of perturbing forces (pulses) at high-frequency resonances and to determine the economy of a turbine stage with various structural features for decreasing the dynamic bending stresses under blade vibrations. 7 ill., 20 ref. L. P. A.

2/2

USSR

UDC 614.73:612.014.482(47)

USHAKOVA, A. P., LIKHTAREV, I. A., and MOISEYEV, A. A.

"'Population Dose' of Irradiation of the Population of the USSR from Global Cs^{137}"

Moscow, Gigiyena i Sanitariya, No 7, Jul 70, pp 54-59

Abstract: An assessment is presented of the "population dose" for the entire Soviet people from incorporated global Cs^{137} ingested with food. The calculations are based on a model suggested by Lindell and subsequently used by the U.N. Scientific Committee on the Effects of Atomic Radiation to determine the amount of Sr^{90} accumulated as a result of nuclear tests. It is concluded that the "population dose" received in the Soviet Union is small as compared to the levels of background radiation. Hence, even a thorough examination of large groups of people would not be likely to reveal a statistically significant increase in the number of genetic and somatic effects due to incorporated Cs^{137}. It is noted that the irradiation structure of a people may vary substantially in relation to the specific development of individual subpopulations, traditional local diets, and the presence or absence of so-called hot spots, i.e., regions with an unusual cesium ecology which are characteristized by exceptionally high Cs^{137} concentrations in foods of local origin and by the content of this radionuclide in the indigenous inhabitants.

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1/2 024 UNCLASSIFIED PROCESSING DATE--30OCT70
TITLE--RADIOECOLOGICAL PARAMETERS OF THE CHAIN, LICHEN, NORTHERNDEER, MAN
-U-
AUTHOR-(05)-RAMZAYEV, P.V., TROITSKAYA, M.N., IBATULLIN, M.S., MOISEYEV,
A.A., NIZHNIKOV, A.I.
COUNTRY OF INFO--USSR, ARCTIC OCEAN

SOURCE--GIGIYENA I SANITARIYA, 1970, NR 6, PP 38-42

DATE PUBLISHED--------70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--CESIUM ISOTOPE, RADIOACTIVE WASTE, ECOLOGY, GEOGRAPHIC
LOCATION

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--3001/0925 STEP NO--UR/0240/70/000/006/0038/0042

CIRC ACCESSION NO--AP0126584
UNCLASSIFIED

2/2 024 UNCLASSIFIED PROCESSING DATE--30OCT70
CIRC ACCESSION NO--AP0126584

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. ON THE BASIS OF INVESTIGATIONS CARRIED OUT FOR A PERIOD OF FIVE YEARS (1962-1966) ALONG THE SOVIET COAST OF THE ARTIC OCEAN FROM CHUKOTKA TO THE KOLA PENINSULA THE AUTHORS DETERMINED THE EXTENT OF MIGRATION OF RADIONUCLIDES, ESPECIALLY THAT OF CS PRIME137 IN THE CHAIN "LICHEN, NORTHER-DEER, MAN". THE FINDINGS MAKE IT POSSIBLE TO PREDICT THE CONTAMINATION LEVEL OF THE CHAIN. THE AUTHORS POINT TO THE NECESSITY OF WIDER RADIOBIOLOGICAL INVESTIGATION OF THE NORTHERN CHAIN, AS THE DOSES ABSORBED IN ITS LINKS APPROACH THE EXISTING MAXIMAL PERMISSIBLE RADIOACTIVE DOSES. FACILITY: LENINGRAD. N-I INST. RADIATSIONNOY GIGIYENY MINISTERSTVA ZDRAVOOKHRANENIYA RSFSR.

UNCLASSIFIED

Nuclear Science and Technology

M

USSR UDC: 621.039.58,68:539.6

DIBOBES, I. K., KNYAZEV, V. A., ~~MOISEYEV, A. A.,~~ MOSKALEV, YU. I., SIVINTSEV, YU. V., TEVEROVSKIY, YE. N., TERMAN, A. V., and SHAMOV, V. P.

"Radiation Safety Standards (NRB-69)"

Moscow, Atomnaya energiya, Vol. 28, No 6, Jun 70, pp 463-467

Abstract: In August 1969 the Ministry of Health of the USSR approved the Radiadiation Safety Standards (NRB-69) developed by the National Commission on Radiation Protection. Recommendations of the International Commission of Radiological Protection served as the basis for the new standards. These standards set the basic permissible levels for ionizing radiation along with the permissible admission of radioactive isotopes into an organism. This includes three categories of people: Category A including service personnel, Category B including specific individuals in the population who live in areas where the permissible radiation doses may have been exceeded and where radiation conditions are checked, and Category C which includes the entire population with respect to estimating a genetically significant radiation dosage. The new standards are mandatory for the enterprises and establishments of all ministries and agencies using, applying, processing, transporting, storing, and burying radioactive substances and ionizing radiation sources. A short summary is given of the scientific basis which served as the framework for the new standards. The new standards are differentiated from the old. Tables are

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DIBOBES, I. K., et al., Atomnaya energiya, Vol 28, No 6, Jun 70, pp 463-467

given showing permissible somatic and genetic doses. Permissible surface contamination levels are also given.

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Steels

USSR

UDC 621.643.411.4.62-192

MOISEYEV, A. A., Candidate of Technical Sciences, SUKHAREVA, V. D., Engineer, ZEMZIN, V. N., Doctor of Technical Sciences, KHITRIK, A. I., Candidate of Technical Sciences, MOSHKEVICH, Ye. I., Candidate of Technical Sciences, KOROBOCHKIN, I. Yu., Candidate of Technical Sciences, KIRVALIDZE, N. M., Candidate of Technical Sciences, PISHCHIKOV, G. P., Candidate of Technical Sciences, DEVYATKO, E. I., Engineer, All-Union "Order of the Red Banner of Labor" Scientific Research Institute of Heat Engineering imeni F. E. Dzerzhinskiy, Central Scientific Research Design and Planning Boiler and Turbine Institute imeni I. I. Polzunov, Road Construction Division, Southern Pipe Plant, All-Union Scientific Research Diesel Locomotive Institute

"Improving the Operational Reliability of Welded Joints and the Technological Properties of High-Strength EP184 Austenitic Steel"

Moscow, Teploenergetika, No 8, Aug 72, pp 46-49

Abstract: The article is a report on the results of joint research by various scientific research institutes and industrial organizations to determine what effect methods of melting EP184 steel might have on the work-

USSR

MOISEYEV, A. A. et al., Teploenergetika, No 8, Aug 72, pp 46-49

ing reliability of welded joints as well as on the other properties of the metal. It was found that crack formation in joints can be eliminated by reducing the oxygen content, as well as the concentrations of hydrogen, nitrogen, sulfur and phosphorus below certain levels. This can be done by melting from a fresh charge with subsequent vacuum-arc remelting. Electroslag remelting can be used as well, but is less effective.

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1/2 018 UNCLASSIFIED PROCESSING DATE--02OCT70
TITLE--KINETICS OF THE OXIDATIVE THERMAL DEGRADATION OF
POLY(PHENYLBUTOXIVSILOXANES) -U-
AUTHOR-(04)-SIDNEV, A.I., KHVASHCHEVSKAVA, YU.V., MOISEYEV, A.F.,
PRAVEDNIKOV, A.N.
COUNTRY OF INFO--USSR

SOURCE--VYSOKOMOL. SOEDIN., SER. A 1970, 12(2), 362-7

DATE PUBLISHED--------70

SUBJECT AREAS--CHEMISTRY, MATERIALS

TOPIC TAGS--REACTION KINETICS, OXIDATIVE DEGRADATION, THERMAL DEGRADATION,
SILOXANE, ALKYL RADICAL, OXYGEN COMPOUND

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--1992/0321 STEP NO--UR/0459/70/012/002/0362/0367

CIRC ACCESSION NO--AP0111515
UNCLASSIFIED

2/2 018 UNCLASSIFIED PROCESSING DATE--02OCT70
CIRC ACCESSION NO--AP0111515
ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE OXIDATIVE THERMAL DEGRADATION OF THE TITLE POLYMERS (I) (PREPD. BY SIMULTANEOUS HYDROLYSIS AND ESTERIFICATION OF PHSICL SUB3) CONTG. VARIOUS AMTS. OF OBU GROUPS WAS STUDIED AT 150-240DEGREES. A SIGNIFICANT DEGRADATION COMMENCED AT 170DEGREES. DURING THE INDUCTION PERIOD, THE REACTION RATE WAS 1ST ORDER WITH RESPECT TO OBU GROUP CONTENT. THE DEGRADATION PRODUCTS OF I CONTAINED CO, CO SUB2. H SUB2 O, AND TRACES OF H AND CH SUB4. THE DEGENERATIVE BRANCHING OF I DURING DEGRADATION WAS CAUSED BY HYDROPEROXIDES. ADDN. OF 0.1PERCENT NEOZONE A (II) INCREASED THE INDUCTION PERIOD AT 200DEGREES FROM 5 TO 180 MIN, SUGGESTING THAT II WAS THE MOST EFFECTIVE STABILIZER OF I. THE OXIDATIVE THERMAL DEGRADATION RATE WAS PROPORTIONAL TO THE OBU-SI RATIO. A RADICAL AUTOCATALYTIC DEGRADATION MECHANISM WAS PROPOSED.

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1/2 018 UNCLASSIFIED PROCESSING DATE--02OCT70
TITLE--KINETICS OF THE OXIDATIVE THERMAL DEGRADATION OF
POLY(PHENYLBUTOXIVSILOXANES) -U-
AUTHOR-(04)-SIDNEV, A.I., KHVASHCHEVSKAVA, YU.V., MOISEYEV, A.F.,
PRAVEDNIKOV, A.N.
COUNTRY OF INFO--USSR

SOURCE--VYSOKOMOL. SOEDIN., SER. A 1970, 12(2), 362-7

DATE PUBLISHED--------70

SUBJECT AREAS--CHEMISTRY, MATERIALS

TOPIC TAGS--REACTION KINETICS, OXIDATIVE DEGRADATION, THERMAL DEGRADATION,
SILOXANE, ALKYL RADICAL, OXYGEN COMPOUND

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--1992/0321 STEP NO--UR/0459/70/012/002/0362/0367

CIRC ACCESSION NO--AP0111515
UNCLASSIFIED

2/2 018 UNCLASSIFIED PROCESSING DATE--02OCT70

CIRC ACCESSION NO--AP0111515

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE OXIDATIVE THERMAL DEGRADATION OF THE TITLE POLYMERS (I) (PREPD. BY SIMULTANEOUS HYDROLYSIS AND ESTERIFICATION OF PHSICL SUB3) CONTG. VARIOUS AMTS. OF OBU GROUPS WAS STUDIED AT 150-240DEGREES. A SIGNIFICANT DEGRADATION COMMENCED AT 170DEGREES. DURING THE INDUCTION PERIOD, THE REACTION RATE WAS 1ST ORDER WITH RESPECT TO OBU GROUP CONTENT. THE DEGRADATION PRODUCTS OF I CONTAINED CO, CO SUB2, H SUB2 O, AND TRACES OF H AND CH SUB4. THE DEGENERATIVE BRANCHING OF I DURING DEGRADATION WAS CAUSED BY HYDROPEROXIDES. ADDN. OF 0.1PERCENT NEOZONE A (II) INCREASED THE INDUCTION PERIOD AT 200DEGREES FROM 5 TO 180 MIN, SUGGESTING THAT II WAS THE MOST EFFECTIVE STABILIZER OF I. THE OXIDATIVE THERMAL DEGRADATION RATE WAS PROPORTIONAL TO THE OBU-SI RATIO. A RADICAL AUTOCATALYTIC DEGRADATION MECHANISM WAS PROPOSED.

UNCLASSIFIED

USSR

UDC: 537.312.62

KUKHARCHUK, V. G., MOISEYEV, A. I., UGOL'NIKOVA, T. A.

"Producing Diffusion Layers of the Compound V_3Ga on Vanadium Wire"

Moscow, Sverkhprovodyashchiye splavy i soyedin.--sbornik (Superconducting Alloys and Compounds--collection of works), "Nauka", 1972, pp 29-34 (from RZh-Radiotekhnika, No 12, Dec 72, abstract No 12D569 [résumé])

Translation: A study was made of the conditions of synthesizing a superconductive layer of the compound V_3Ga on vanadium wire when it is treated in molten gallium at temperatures from 100 to 500°C and subsequent annealing at temperatures from 800 to 1100°C. The specimens were subjected to radiographic and metallographic analysis. Temperature-time conditions were determined for formation of the diffusion layer of compound V_3Ga. Specimens gallium-plated at 400°C showed an unknown gallium-vanadium phase whose composition and structure were not determined. The maximum temperature of transition to the superconductive state for V_3Ga layers produced by the diffusion method is 15.2 K. Two illustrations, one table, bibliography of 13 titles.

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1/2 045 UNCLASSIFIED PROCESSING DATE--30OCT70
TITLE--PERTURBED MOTION OF A BODY CONTAINING A CYLINDRICAL CAVITY WITH RIBS -U-
AUTHOR-(03)-YERMAKOV, V.I., MOISEYEV, G.A., SHERSHNEV, V.G.

COUNTRY OF INFO--USSR

SOURCE--AKADEMIIA NAUK SSSR, IZVESTIIA, MEKHANIKA TVERDOGO TELA, MAR.-APR. 1970, P. 52-61
DATE PUBLISHED---------70

SUBJECT AREAS--PHYSICS

TOPIC TAGS--CYLINDRIC SHELL STRUCTURE, REINFORCED SHELL STRUCTURE, MOTION EQUATION, VIBRATION ANALYSIS, FLUID DYNAMICS, BOUNDARY VALUE PROBLEM

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--2000/1282 STEP NO--UR/0484/70/000/000/0052/0061

CIRC ACCESSION NO--AP0124933
UNCLASSIFIED

2/2 045 UNCLASSIFIED PROCESSING DATE--30OCT70

CIRC ACCESSION NO--AP0124933

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. STUDY OF THE MOTION OF A BODY WITH A PARTIALLY FILLED CYLINDRICAL CAVITY EQUIPPED WITH DAMPING RIBS. THE PROBLEMS ARISING IN DETERMINING THE HYDRODYNAMIC CHARACTERISTICS OF THE LIQUID FILLING ARE SURMOUNTED IN THIS CASE BY EMPLOYING THE METHOD OF COUPLING PARTICULAR SOLUTIONS. A SOLUTION IS OBTAINED FOR THE BOUNDARY VALUE PROBLEM OF SMALL VIBRATIONS OF THE LIQUID FILLING, AND THE INERTIA TENSOR OF AN EQUIVALENT SOLID BODY IS CALCULATED.

UNCLASSIFIED

USSR

YERMAKOV, V. I., MOISEYEV, G. I., SHERSHENEV, V. G., Moscow

"The Perturbed Motion of a Body Containing a Cylindrical Cavity with Elastically Mounted Ribs"

Moscow, Mekhanika Tverdogo Tela No. 5, 1970, pp 65-73.

Abstract: Equations are concluded for the perturbed motion of a body with a cylindrical cavity containing a fluid and elastically mounted ribs. The method of conjugation is used to determine the hydrodynamic parameters characterizing the force and momentum effects of the liquid filler and the oscillating ribs on the motion of the body.

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Inorganic Compounds

USSR

UDC 541.183

TANUTROV, I. N., KOSTENETSKIY, V. P., MOISEYEV, G. K., OKUNEV, A. I.

"Density, Surface Tension and Viscosity of Na_2SO_4-$CaSO_4$ Melts"

Tr. In-ta Elektrokhimii. Ural'sk. nauch. tsentr. AN SSSR (Works of the Institute of Electrochemistry. Ural Scientific Center, Academy of Sciences of the USSR), 1971, vyp. 17, pp 41-44 (from RZh-Khimiya, No 1 (I), Jan 72, Abstract No 1B1260)

Translation: Measurements are made of the temperature and concentration dependence of density (ρ), surface tension (σ) and viscosity (μ) of melts of Na_2SO_4-$CaSO_4$ at 960-1200°C. It is found that in the concentration range of 0-60 mol % $CaSO_4$, ρ and σ decrease lineraly with temperature, while μ decreases exponentially. The behavior of surface tension and adsorption with concentration indicates the probability of existence of $[NaSO_4]$ anions in Na_2SO_4-$CaSO_4$ melts (primarily on the surface), while the viscosities and energy of activation of viscous flow indicate the presence of $[Ca_x(SO_4)_y]^n$ anions (chiefly within the body of the melt). Resume.

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1/2 024 UNCLASSIFIED PROCESSING DATE--04DEC70
TITLE--DEPENDENCE OF THE PHYSICOMECHANICAL PROPERTIES OF SYNTHETIC FIBERS
ON THE DESIGN OF THE TAKE UP SPREADER MECHANISM OF A PP 1000I MACHINE
AUTHOR-(03)-STRELTSES, V.YA., MOISEYEV, G.K., BONDAREV, A.A.

M

COUNTRY OF INFO--USSR

SOURCE--KHIM, VOLOKNA 1970, (2), 34-6

DATE PUBLISHED--------70

SUBJECT AREAS--MATERIALS, MECH., IND., CIVIL AND MARINE ENGR

TOPIC TAGS--CAPRONE, TEXTILE INDUSTRY MACHINERY, SYNTHETIC FIBER, PLASTIC
MECHANICAL PROPERTY/(U)PP1000I TEXTILE MACHINE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--3005/0097 STEP NO--UR/0183/70/000/002/0034/0036

CIRC ACCESSION NO--AP0132390
UNCLASSIFIED

2/2 024 UNCLASSIFIED PROCESSING DATE--04DEC70

CIRC ACCESSION NO--AP0132390

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. ANAL. STUDIES OF THE TAKE UP SPREADER MECHANISM INDICATED THAT IT AFFECTED KAPRON YARN THCIKNESS AND TENSION AT EQUAL INTERVALS ON THE BOBBIN. A COMPENSATING DEVICE WAS PROPOSED TO ELIMINATE THE EFFECTS OF THE SPREADER.

UNCLASSIFIED

USSR UDC: 53.07/08+53.001.5

FEDOROV, G. A., SLAVYAGIN, P. D., MOISEYEV, I. F., ANTONOV, V. A., TSURGANOV, S. V.

"Using the Geometry of Linear and Spiral Scanning in Human Radiation Spectrometers"

V sb. Vopr. dozimetrii i zashchity ot izluch. (Problems of Dosimetry and Radiation Shielding--collection of works), vyp. 12, Moscow, Atomizdat, 1971, pp 173-178 (from RZh-Fizika, No 4, Apr 72, Abstract No 4A714)

Translation: A study was made of the spatial effectiveness of registration of gamma quanta by a human radiation spectrometer as a function of the energy of the isotopes utilized by the detector, the length and height (or radius) of scanning, and the region of the recorded spectrum for linear and spiral scanning geometries. M. L.

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USSR UDC 621.382:621.317.799

KLYUCHANTSEV, S.V., KOLESNIKOV, V.G., LITVINOV, V.M., MOISEYEV, I.A., SERGEYEV, N.M., TALOV, I.L.

"Multiprogram System With Time Sharing For Monitoring Of Parameters And Classification Of Semiconductor Devices"

V sb. Novoye v tekhn. poluprovodn. proiz-va (New Semiconductor Production Technology--Collection Of Works), Voronezh, Voronezh University, 1971, pp 96-104 (from RZh:Elektronika i yeye primeneniye, No 4, April 1972, Abstract No 4B538)

Translation: The paper reports on the development of an automatic system for monitoring and classification of transistors and semiconductor diodes. The following enter into the composition of the system: 1) A Type 'Elektronika-100" computer with a storage size of 4096 words and a device for input-output of information; 2) A Type UT-1 program-controlled tester with 1 ÷ monitoring stations each. The maximum set [komplekt] of the system can have up to seven UT-1 testers. The mathematical security developed makes it possible to perform multiprogram control by testers (the monitoring stations operate in a time-sharing regime) and with the following monitoring regimes: 1) Simultaneous monitoring of up to seven different types of transistors and semiconductor diodes (the

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KLYUCHANTSEV, S.V., et al. V sb. Novoye v tekhn. poluprovodn. proiz-va, Voronezh, Voronezh University, 1971, pp 96-104

overall extent of the test program should not exceed 240 tests) and the separation of them into 14 or 32 groups; 2) Automatic monitoring and processing of the results of measurements (quantity and percentage of devices in each group, quantity and percentage of rejected devices), and also the entry of these results into the numerical printing [tsifropechat']. The system can change the quantitative composition of the equipment with the object of accommodation to the requirements of test, series, or mass production. 3 ill. 1 ref. V.P.

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USSR

UDC 612.014.482-087.
891.6

MOISEYEV, I. E., FEDOROV, G. A., and BAMBLEVSKIY, V. P., Moscow Engineering-Physical Institute, Moscow

"A Method of Recording by Means of a Spectrometer of Gamma-Quanta Emitted From the Human Body"

Moscow, Meditsinskaya Radiologiya, Vol 18, No 8, Aug 73, pp 42-47

Abstract: A method was developed which makes it possible to record gamma-quanta emitted by a radionuclide in the human body with results independent of the location of the source of radiation in the body. Calculations carried out on a computer on the basis of results obtained by measuring with an eight-crystal gamma spectrometer radiation emitted by 140-1460 kev ^{137}Cs sources placed in various locations within the phantom showed that at a distance of the eight (NaI(Tl) crystals amounting to 10-30 cm from an elliptical cylinder air- or water-filled phantom (20-40 cm from the main axis of the phantom) the error in determinations of absolute activities in the range of $\sim 10^{-7}$ C did not exceed 5%. The crystals were placed in a straight line parallel to the main axis of the phantom at distances of 25 cm from each other. The time of measurement was 2.5 min. The ellipse forming the cross-section of the phantom had a short axis of 20 and a long axis of 30 cm,

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MOISEYEV, I. E., et al., Meditsinskaya Radiologiya, Vol 18, No 8, Aug 73, pp 42-47

respectively. A geometric mean of two measurements (above and below the phantom) was taken. On placement of the eight crystals along a straight line at a height of 10 cm from the phantom surface, a distance of 25 cm between the detectors, and gamma radiation in the 300-700 kev range, the ratio of the lengths of time of recording had to be 1.25:1:1:1:1:1:1:1.25. At this ratio the maximum variation of the count was 9 and 35% with changes of the position of the source in the direction of the length and over the cross-section of the phantom, respectively.

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SO: JPRS 59985
7 SEP 73

(8)

UDC 621.396.628:523.164

PARAMETERS OF THE RT-22 KRAO RADIOTELESCOPE ANTENNA AT WAVELENGTHS OF 3 AND 1.35 CENTIMETERS

[illegible]

[Article by L.D. Bakhrakh, M.I. Grigor'yeva, V.A. Efanov, L.R. Kogan, V.I. Kostenko, L.I. Matveyenko, I.G. Moiseyev, and Yu. G. Monin of the Institute of Space Research of the USSR Academy of Sciences; Moscow, Izvestiya Vysshikh Uchebnykh Zavedeniy -- Radiofizika, Russian, Vol 16, No 5, 1973, submitted 3 July 1972, pp 675-679]

A two-reflector antenna system in the 3-centimeter wave band was developed in 1968 in order to improve the KrAO [Crimean Astrophysical Observatory] RT-22 radiotelescope[1] and, to provide maximum sensitivity, it was tuned and its basic electrical parameters at 3.34 centimeters were determined. In developing the illuminating system of the KrAO's RT-22, the operating experience of the FIAN[2] [Physics Institute imeni P. N. Lebedev of the USSR Academy of Sciences] RT-22 was considered and certain changes in its system parameters were introduced: the diameter of the secondary reflector D_2 = 1,500 millimeters, and the system's secondary focus was chosen as 200 millimeters from the vertex of the paraboloid with a view to insuring minimal losses in the millimeter waveband. These circumstances limited the longitudinal dimension of the irradiator in the 3-centimeter wave band. The two-reflector irradiator has a comparatively small longitudinal dimension, which is why it was chosen. Its scheme was tried out on an analogical antenna, the FIAN RT-22[2], and gave satisfactory results.

The radiation patterns of the two-reflector irradiator in the E and H planes and the cross-polarization characteristic at the 3.34 centimeter wavelength are shown in figure 1. The irradiator's dispersion coefficient, computed per the radiation pattern, does not exceed β = 0.2.

Preliminary tuning of the antenna was done on the sun, final tuning on radio sources of small angular size. A radiometer with a parametric amplifier was used in tuning at the

MOISEYEV, I. G.

1/3 022 UNCLASSIFIED PROCESSING DATE--11SEP70
TITLE--8-MM BAND RADIOMETER WITH PARAMETRIC AMPLIFIER -U-

AUTHOR--YEFANOV, V.A., KEYS, YE.M., KLICH, S.M., MOISEYEV, I.G.,
CHESNOKOV, A.A.
COUNTRY OF INFO--USSR

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SOURCE--MOSCOW, RADIOTEKHNIKA I ELEKTRONIKA, NO 3, MAR 70, PP 627-629

DATE PUBLISHED----MAR70

SUBJECT AREAS--ASTRONOMY,ASTROPHYSICS

TOPIC TAGS--RADIOMETER, PARAMETRIC AMPLIFIER, RADIO TELESCOPE, RADIO
ASTRONOMY/(U)RT22 RADIOTELESCOPE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--1987/1673 STEP NO--UR/0109/70/000/003/0627/0629

CIRC ACCESSION NO--AP0104895
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2/3 022 UNCLASSIFIED PROCESSING DATE--11SEP70

CIRC ACCESSION NO--AP0104895

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE PAPER PRESENTS THE CHARACTERISTICS AND SOME RESULTS OF THE USE FOR RADIOASTRONOMICAL OBSERVATIONS OF A 8-MM BAND RADIOMETER WITH A SEMICONDUCTOR PARAMETRIC AMPLIFIER AT THE INPUT. THE OBSERVATIONS WERE MADE ON THE RT-22 RADIO TELESCOPE OF THE CRIMEAN ASTROPHYSICAL OBSERVATOR OF THE ACADEMY OF SCIENCES, USSR. THE MEASURED CHARACTERISTICS OF THE RADIOMETER WITH THE SEMICONDUCTOR PARAMETRIC AMPLIFIER (PA) ARE: 1) NOISE TEMPERATURE OF THE PA, INCLUDING LOSSES OF THE CIRCULATOR, SIMILAR TO 540DEGREES K; 2) SINGLE CHANNEL AMPLIFICATION FACTOR OF THE PA, INCLUDING LOSSES OF THE CIRCULATOR, SIMILAR TO 16 DB; 3) TRANSMISSION BAND OF PA AT THE 3 DB LEVEL, 150-190 MHZ; 4) NOISE TEMPERATURE OF THE MIXER, INCLUDING THE NOISE OF THE I F AMPLIFIER, 4400DEGREES K; 5) TRANSMISSION BAND OF THE I F AMPLIFIER, CONGRUENT TO 20 MHZ; 6) LOSSES OF THE WAVEGUIDE CHANNEL UP TO THE PA, INCLUDING FERRITE MODULATOR AND RECTIFIER, 2 DB; 7) LOSSES OF THE WAVEGUIDE CHANNEL BETWEEN THE PA AND THE MIXER, INCLUDING THE FERRITE RECTIFIER AT THE OUTPUT OF THE PA, 3 DB; 8) OVER ALL NOISE TEMPERATURE OF THE RADIOMETER (INCLUDING THE NOISE OF THE RADIOTELESCOPE ANTENNA), MEASURED AT DIFFERENT TIMES, TAU SUBOVERALL EQUALS 1300-1700DEGREES K; AND 9) FLUCTUATION SENSITIVITY OF RADIOMETER MEASURED UNDER THE SAME CONDITIONS AS TAU SUBOVERALL (WITH A TIME CONSTANT OF THE LOW FREQUENCY CIRCUIT TAU EQUALS 1 SEC), DELTATAU EQUALS 0.5 - 0.7DEGREES K.

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UNCLASSIFIED PROCESSING DATE--11SEP70

3/3 022

CIRC ACCESSION NO--AP0104895

ABSTRACT/EXTRACT--THE RADIOMETER DESCRIBED, BUT WITHOUT THE PA HAD, ACCORDING TO CERTIFIED DATA, TAU SUBOVERALL EQUALS 7500-9000DEGREES K, DELTATAU CONGRUENT TO 3DEGREES K WITH TAU EQUALS 1 SEC, AND WITH THE BEST ADJUSTMENT OF THE ELEMENTS OF THE RECEIVING CHANNEL IT WAS POSSIBLE TO ATTAIN TAU SUBOVERALL EQUALS 5000DEGREES K AND DELTATAU EQUALS 2DEGREES K. A COMPARISON OF THESE DATA WITH THOSE PRESENTED ABOVE SHOWS THAT USE OF THE PA EVEN WITH ITS NONOPTIMUM USE, AS OCCURED IN THE WORK, LEAD TO AN INCREASE OF THE RADIOMETER'S SENSITIVITY BY FOUR TIMES. 2 FIGS. 8 REF. RECEIVED BY EDITOR: 22 JAN 69.

UNCLASSIFIED

Acc. Nr: AP0048356 Abstracting Service: INTERNAT. AEROSPACE ABST. 5-70 Ref. Code: UR 0141

A70-25153 # Observations of Jupiter, Venus and 3C 273 at the wavelengths of 2 and 8 mm (Nabliudeniia Iupitera, Venery i istochnika 3C 273 na volnakh 2 i 8 mm). V. A. Efanov, A. G. Kisliokov, I. G. Mois[illegible], and A. I. Maumov (Gor'kovskii Gosudarstvennyi Universitet, Gorki, USSR). *Radiofizika*, vol. 13, no. 2, 1970, p. 219-224. 15 refs. In Russian. IZV VUZ

Results of observations carried out in May 1968, using a 22-m radio telescope. The brightness temperature of Venus, found by comparison with that of Jupiter, appeared to be equal to 290 plus or minus 25 K at 2.16 mm and 495 plus or minus 20 K at 8 mm. The densities of the radiation fluxes of the source 3C 273 at the same wavelengths are equal to (114 plus or minus 14) x 10 to the minus 26th W/sq m-H2 and (62 plus or minus 4) x 10 to the minus 26th W/sq m-H2. The data are presented without taking into account the errors in determining the brightness temperatures of Jupiter, the latter accepted to be equal to 150 plus or minus 20 K at 2.16 mm and 144 plus or minus 20 K at 8 mm. (Author)

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REEL/FRAME
19800063

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UDC 523.164

USSR

YEFANOV, V. A., KEYS, Ye. M., KLICH, S. M., MOISEYEV, I. G., CHESNOKOV, A. A. (Deceased), and ESMAN, A. P.

"Radiometer in the 8-mm Range With a Parametric Amplifier"

Moscow, Radiotekhnika i Elektronika, Vol 15, No 3, 1970, pp 627-629

Abstract: Although parametric amplifiers have been successfully used in centimeter-wave radiometric receivers, no information has hitherto appeared in the literature concerning similar use of these amplifiers in the millimeter range. This brief communication gives the characteristics and some of the results of a radiometer used in the 8-mm wavelength range with a semiconductor parametric amplifier at its input. The observations were made with the radiotelescope RT-22 in the Crimean Astrophysical Observatory. The amplifier in question is a single tuned-circuit type with a circulator and ferrite valve at the input for additional decoupling, connected to the modulation radiometer with no change in the latter. Observations using

USSR

YEFANOV, V. A., et al, Radiotekhnika i Elektronika, Vol 15, No 3, 1970, pp 627-629

Abstract: this device were made of the planets Jupiter and Venus, and of discrete sources such as 3C273, 3C279, etc. The use of this amplifier improved the sensitivity of the radiometer and the reliability of the operations.

1/2 015 UNCLASSIFIED PROCESSING DATE--23OCT70

TITLE--SELECTIVITY OF STYRENE OXIDATION BY PALLADIUM CHLORIDE IN WATER -U-

AUTHOR-(04)-ZAKHAROVA, L.M., VARGAFTIK, M.N., MOISEYEV, I.I., KATSMAN, L.A.

COUNTRY OF INFO--USSR

SOURCE--IZV. AKAD. NAUK SSSR, SER. KHIM. 1970, (3), 700-2

DATE PUBLISHED-------70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--STYRENE, OXIDATION, PALLADIUM CHLORIDE, LITHIUM PERCHLORATE, CARBONYL COMPOUND

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1999/1906 STEP NO--UR/0062/70/000/003/0700/0702

CIRC ACCESSION NO--AP0123690

UNCLASSIFIED

2/2 015 UNCLASSIFIED PROCESSING DATE--23OCT70

CIRC ACCESSION NO--AP0123690

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. KINETIC DATA WERE REPORTED ALONG WITH PRODUCT DISTRIBUTION IN THE OXIDN. OF PHCH:CH SUB2 BY PDCL SUB2 IN H SUB2 O, RUN AT 25DEGREES WITH LICLO SUB4 TO MAINTAIN CONST. IONIC STRENGTH IN HCL OR HCLO SUB4 SOLN. THE REACTION GAVE PHCH SUB2 CHO, ACPH, UNREACTED PHCH:CH SUB2 AND SOME BZH. THE CARBONYL COMPDS. WERE FORMED IN SUMMARY 98PERCENT YIELD BASED ON CONVERTED HYDROCARBON. FACILITY: INST. OBSHCH. NEORG. KHIM. IM. KURNAKOVA, MOSCOW, USSR.

UNCLASSIFIED

1/2 021 UNCLASSIFIED PROCESSING DATE--04DEC70
TITLE--KINETICS AND MECHANISM OF OLEFIN OXIDATION BY PALADIUM SALTS -U-

AUTHOR--MOISEYEV, I.I.

COUNTRY OF INFO--USSR

SOURCE--KINET. KATAL. 1970, 11(2), 342-56

DATE PUBLISHED-------70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--ISOMERIZATION, ORGANOMETALLIC COMPOUND, PALLADIUM COMPOUND,
ALKENE, OXIDATION, REACTION KINETICS

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY FICHE NO----FD70/605012/D04 STEP NO--UR/0195/70/011/002/0342/0356

CIRC ACCESSION NO--AP0140289
UNCLASSIFIED

2/2 021 UNCLASSIFIED PROCESSING DATE--04DEC70

CIRC ACCESSION NO--AP0140289

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. A REVIEW OF EXPTL. DATA WITH 88 REFS. THE MECHANISM OF PI SIGMA COMPLEX ISOMERIZATION AND DECOMPN. OF ORGANOPALLADIUM COMPDS. ARE DISCUSSED IN DETAIL. FACILITY: INST. OBSHCH. NEORG. KHIM. IM. KURNAKOVA, MOSCOW, USSR.

UNCLASSIFIED

Acc. Nr: AP0100223 Abstracting Service: CHEMICAL ABST. 6/70 Ref. Code: UR 0062

111602d **Decomposition of π-allyl complexes of palladium in**
alkcline aqueous and alcoholic solutions. Belov, A. P.; [redacted]
[redacted] Syrkin, Ya. K. (Inst. Tonkoi Khim. Tekhnol. im.
Lomonosova, Moscow, USSR). *Izv. Akad. Nauk SSSR, Ser.*
Khim. 1970, (1), 46–9 (Russ). Kinetic data were reported for the
reaction of π-allylpalladium chloride complex in aq. alkalies in
the presence of pyridine, MeOH, EtOH, $CH_2{:}CHCH_2OH$, and
O. Pyridine converts the complex to a stable pyridine salt which
barely decomps. under normal conditions. Addn. of MeOH or
EtOH increases the rate of decompn. of the complex and C_2D_5OH
has a 2.8-fold isotope effect relative to EtOH. $CH_2{:}CHCH_2OH$
sharply raises the rate of decompn. of the complex and the amt. of
generated $MeCH{:}CH_2$ increases by ~100% and amts. to 1 mole
per C_3H_5PdCl structure unit present. The $MeCH{:}CH_2$ genera-
tion comes from the π-allylic grouping and not from the ROH in
this case. In O atm. the decompn. of the complex is inhibited
and the product is a compd. of Pd(II); at 50–60° in O atm. the
decompn. of $(C_3H_5PdCl)_2$ is much slower than in argon atm. and
the product is not metallic Pd but compds. of Pd (II), without
formation of olefin. G. M. Kosolapoff

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REEL/FRAME
19841613

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UDC 621.385.032.98

USSR

SHCHELKUNOV, G.P., YAMPOL'SKIY, I.R., ALFEROV, V.N., MOISEYEV, K.A.

"Process Of Aging Of Power Klystrons With A Positive Polarity Of The Voltage At The Cathode"

Elektron. tekhnika. Nauchno-tekhn. sb. Elektron. SVCh (Electronics Technology. Scientific-Technical Collection. Microwave Electronics.), 1970, No 1, pp 146-148 (from RZh--Elektronika i yeye primeneniye, No 8, August 1970, Abstract No 8A103)

Translation: A method is considered for aging of power klystrons (KIU-12), making use of a limiting resistance (the procedure is suitable for devices which have either a thermionic cathode or a cold cathode). During such aging, cases were observed where breakdown was completed even in the course of a voltage pulse. Several devices were aged by the new process. An advance of the voltage to the required magnitude was performing during 0.5--1.5 hours and the number of breakdowns did not exceed 15. After shifting to the usual polarity, additional aging by the ordinary method is necessary, but the time for it shortens to 1--2 hours and the number of breakdowns amounts to 100-300 instated of the 600-800 during aging by the old method. After finishing off of the procedure, it is proposed to eliminate completely the additional aging. The quality of the devices (stability of operation, durability) passing the "without current" aging must be increased substantially, because such aging assures a reduction of failures of the electrodes by breakdowns. 2 ill. 2 ref.

G.B.

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1/3 005 UNCLASSIFIED PROCESSING DATE--23OCT70

TITLE--THERMIC STRUCTURE OF EQUATORIAL CURRENTS IN THE WESTERN PACIFIC -U-

M

AUTHOR--MOISEYEV, L.K.

COUNTRY OF INFO--USSR, PACIFIC OCEAN

SOURCE--OKEANOLOGIYA, 1970, VOL 10, NR 3, PP 413-425

DATE PUBLISHED-------70

SUBJECT AREAS--EARTH SCIENCES AND OCEANOGRAPHY

TOPIC TAGS--EQUATORIAL CURRENT, OCEAN DYNAMICS, OCEAN CURRENT

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--3002/1833 STEP NO--UR/0213/70/010/003/0413/0425

CIRC ACCESSION NO--AP0129201
UNCLASSIFIED

CIRC ACCESSION NO--AP0129201

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE THERMOSOUNDINGS HAVE REVEALED ISOTHERMAL (HOMOGENEOUS) AND INVERSION STEPLIKE MESOFORMS OF THE VERTICAL DISTRIBUTION OF THE OCEANOGRAPHIC PROPERTIES AT DEPTHS CONSIDERABLY EXCEEDING THE LIMITING DEPTH OF WIND MIXING. THE INTRALAYER TURBULENT EXCHANGE CREATES THE GENERAL BACKGROUND OF ISOTHERMAL (HOMOGENEOUS) STATE OF MIXED LAYERS, OR LENSES, WITH CONSTANTLY OBSERVED INVERSIONS WHICH OFTEN RESULT IN DENSITY INSTABILITY. STRATIFICATION DISTURBANCE IS NONPERIODIC YET OF HIGH FREQUENCY OF OCCURRENCE. THE SPACETIME STATISTIC INSTABILITY IS EVIDENTLY MAINTAINED AND BALANCED BY DYNAMIC FACTORS. THE THERMO SOUNDINGS SHOW THE EXISTENCE OF A VAST QUASI STATIONARY REGION OF WATERS HAVING LENS STRUCTURE. THE TYPICAL VERTICAL STRUCTURE OF WATER IS PECULIAR OF THE ACTIVE 500 M LAYER IN THE NORTHER TROPICAL CONVERGENCE ZONE. THE BOUNDARY OF WATERS OF THIS STRUCTURE CORRESPONDS APPROXIMATELY TO THE POSITION OF THE SOUTH TROPICAL FRONT. THE LENS WATER STRUCTURE IS AN IMMANENT FEATURE SPECIFIC FOR THE MANY LAYER SYSTEM OF NONSTATIONARY CIRCULATION OF EQUATORIAL CURRENTS. THE FORMATION OF HOMOGENEOUS MIXED LENSES IN THE EQUATORIAL CURRENT SYSTEM OF THE SOUTH TROPICAL CIRCULATION PROCEEDS APPARENTLY ONLY WITH CONVERGENT MERIDIONAL STREAMS. AS A FIRST APPROXIMATION, THE ISOTHERMAL (HOMOGENEOUS) LENSES CORRESPOND TO THE INTERMEDIATE DEPTHS OF THE MAXIMUM HORIZONTAL GRADIENTS OF CURRENT VELOCITIES IN THE LATITUDINAL CIRCULATIONS.

UNCLASSIFIED PROCESSING DATE--23OCT70

3/3 005

CIRC ACCESSION NO--AP0129201

ABSTRACT/EXTRACT--THE SEASONAL OR ABNORMAL DISPLACEMENT OF THE FRONTAL
BOUNDARY NORTHWARD WITH A SIMULTANEOUS ATTENUATION OF THE DRIFT ZONAL
CIRCULATION OF THE SOUTH EQUATORIAL CURRENT FOSTERS AN INTENSIFICATION
OF THE LATITUDINAL CIRCULATION OF THE EQUATORWARD CONVERGING WATERS
RESULTING IN A WIDER LATITUDINAL DISTRIBUTION OF THE LENS STRUCTURE
REGION. FACILITY: INSTITUT OKEANOLOGII IM. P. P. SHIRSHOVA AN
SSSR.

UNCLASSIFIED

USSR

UDC 620.179.118

MOISEYEV, L. M., STARYY, I. B., and KHANONKIN, A. A., Odessa State Pedagogical Institute

"Method of Studying the Wrinkled Microrelief Occurring on the Surface of a Cyclic-Strained Single Crystal"

Metallofizika. Resp. mezhved. sb. (The Physics of Metals. Republic Interdepartment Collection of Works), 1970, vyp. 29, pp 177-180 (from RZh-Metallurgiya, No 3, Mar 71, Abstract No 3I885 by authors)

Translation: The established fact of the appearance of a wrinkled microrelief on the surface of Al single crystal as a result of its cyclic straining is used as the basis for suggesting a method of studying this microrelief, based on the phenomenon of x-ray automagnification. A loading method is suggested which permits continuous bending of the Al single crystal and, if necessary, its cyclic straining. The x-ray optical scheme of the experiment makes it possible to obtain reflexograms, with which it is possible to study the distribution of wrinkles on the crystal surface and its dynamics in relation to the number of loading cycles. Three illustrations. Bibliography with nine titles.

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MOISEYEV, N.

phys math

entered into on a basis that is mutually advantageous to consumer and producer.

Today "direct ties" have both ardent defenders and resolute opponents in the higher schools, ministries and planning agencies. But in practice people are resorting to direct ties, and not without success. . . .

With the development of scientific and technical progress, the proportion of specialists with a higher or specialized secondary education is increasing in a logical way. Mathematicians, economists, physicists and biologists are exerting an ever greater influence on labor productivity. Specialists with university qualifications are entering areas of production that are new to them.

In these conditions, the ties between higher schools and industry cannot help but become interpenetrating. The present system of the planning and placement of specialists developed long ago and has not undergone any noticeable improvement since then.

D. I. Chuprunov, Director of the Planning and Financial Administration of the U.S.S.R. Ministry of Higher and Specialized Secondary Education, reflecting on the difficulties of planning, told us:

"We have already seated the class of 1975 at their desks. Now we must know the requirements of the various branches up to 1980. We need long-range forecasts for the development of each branch. But there aren't any such forecasts. The client determines the requirement on the basis of today's conditions.

"Let me digress and point out that higher-school production is stable by its very nature. Enterprises that have been planned will go into operation or for some reason suddenly they will not, but the specialists that were earmarked for these enterprises, once they have begun their studies, will invariably receive their diplomas at a fixed time. And this is a special 'product': You can't sell it at a cheaper price, and it is not a simple matter even to stop production.

"Furthermore," Chuprunov said, "it is necessary scientifically to substantiate requirements for cadres to ascertain the coefficient of saturation with specialists for each branch. To this end, the functions in production of employees with a secondary or higher education must be clearly defined, and a list of positions must be drawn up scientifically."

This is one of the kingpins in the multifaceted problem of placement.

Many engineers without academic qualifications work in industry. For instance, at Russian Republic enterprises in such a heavily saturated branch—judging by the difficulty of placing young specialists—as the chemical industry, almost 20% of the engineers and technicians do not have academic qualifications. Nearly 6,500 of these people have an incomplete secondary education. But is it possible that some positions do not require a higher education? And for which categories of personnel, on the other hand, are requirements being underrated?

The Ministry of the Chemical Industry recently proposed to cut the number of chemical engineers being trained in a number of specialties by almost 50%. The planning agencies disagreed: What if the need for such specialists rises appreciably in the next five to 10 years? Both sides have grounds for argument, since there are as yet no scientifically substantiated criteria for solving this problem.

I. D. Vlasenko, a representative of the Russian Republic State Planning Committee, went to the Krasnoyarsk Institute of Nonferrous Metals at the higher school's request in order to help place some of its graduates.

"How did you help them?"

"We assembled the executives of the enterprises, we talked—"

But just what sort of arguments did he cite to the enterprise executives in placing the graduates? Vlasenko showed me figures on how many people without academic qualifications or diplomas are holding engineers' positions there.

"The Krasnoyarsk Aluminum Plant took one," I asked N. G. Tselyuk, the plant's assistant director for personnel, where they found the jobs.

"For the time being, they'll be holding workers' positions," he replied.

"When this enormous enterprise was being built, there were not enough specialists. They hired engineers without academic qualifications, teachers, forestry engineers, etc. One way or another, these people learned the job and settled down. Many did so successfully. But, naturally enough, not all of them are right for the plant today. What to do? The public certification of all engineers and technicians was undertaken. With the assistance of sociologists, detailed questionnaires were drawn up. An authoritative certification commission was set up. In essence, the work of each specialist was evaluated and he was given a recommendation for the future. Some employees were told outright that they were unsuited to the positions they held."

"What happened?"

"Several people asked to be transferred," Tselyuk said. "But certification today can serve only as a means of moral influence, helping people to see themselves in the mirror of public opinion."

In determining requirements for cadres in the future, the plant is displaying greater caution regarding the replacement of people without academic qualifications. This caution is warranted, obviously. But, on the other hand, what right does the plant have to make these replacements, even if there is a need to do so?

The plant's new statement of requirement for specialists states what exists today. This statement of requirement, on the basis of which the planning of requirements for diploma-holding cadres begins, does not take theory into consideration. What is the scientific outlook for the branch's development? Which sections is it interested in reinforcing with specialists? What changes are expected in production? Neither the enterprise's statement of requirement nor the paper sheaf of summarized statements of requirement answers these questions.

Evidently not only the personnel administrations but also those who direct and forecast the life of the various branches—the technical administrations, the scientific and technical councils, the branch scientific institutions—should become more closely involved in cadres policy in the branch ministries. The placement problem is acute and multifaceted, and its solution will require a thorough scientific approach, consistency and the unification of efforts.

Man is the main productive force of society. He should be in the right place. A specialist cannot be stored in reserve—his education will depreciate. Someone has calculated this depreciation at 5% per year. After 10 years, the depreciation will be 50%. But after all, not only specialists are being planned—people's destinies are being planned as well. And here one cannot disregard talent, hopes and callings.

TRAINING COMPUTER SPECIALISTS

5/T

School of Economic Management ORIENTED TOWARD THE FUTURE. (By N. Moiseyev, dean of the department of management and applied mathematics of the Moscow Physics and Technical Institute and corresponding member of the U.S.S.R. Academy of Sciences. Izvestia, Sept. 23, p. 5. 1,600 words. Condensed text:) During the current five-year plan, our country will make a sharp leap in the development of electronic-computer technology. The first Soviet-made third-generation systems will appear, and work will begin on the creation of fourth-generation computers. The main thing is that computers will begin to be applied on a truly broad scale in the national economy and in management. In this connection, it is especially important to find our own paths for the effective utilization of computer systems and principles of designing new systems different from those already developed by the other leading industrial powers. Imitation in any field of technology is a planned lag. In the field of computer technology, one of the greatest creations of human genius, which is destined to cause qualitative changes in the development rate of world civilization, a lag is especially dangerous.

In order to bring about a turning point in this branch, the C.P.S.U. Central Committee and the government have adopted a number of highly important decisions. Special attention has been devoted to the training of specialists. During the past few years several leading universities and university-type higher schools – Moscow State University, Leningrad State University, the Moscow Physics and Technical Institute and others – have created departments for the training of specialists in the use of computers, and technical higher schools have begun to train designers of computer systems and "machine" systems of management. Another highly important decision was adopted this summer – to open two-year courses of refresher training for specialists who have a higher education and work with computer equipment.

Our Institute, as well as other leading higher schools in the country, has been instructed to participate in this work. The department of management and applied mathematics at the Moscow Physics and Technical Institute, in which specialists undergo two years of instruction, is now devoting a great deal of attention to the discussion of the principles on which the system of refresher training should be based. Since the system is only beginning to take shape, it is important to think it out comprehensively and to create the best possible version.

In our view, the refresher training of specialists is not an emergency measure. We must organize a permanent system here. Experience shows that the refresher training of specialists in the field of computer use is necessary even when there is a full supply of such specialists. After all, the very rapid replacement of basic concepts is characteristic of the evolution of computers and the way in which prospects for their use in human activity are seen. Views that were advanced 10 to 12 years ago are routinely rejected today, and a person who actively professes concepts in the 1970s that he himself helped to create during the 1960s will simply retard developments in this area. This is why the retraining system must operate continuously. Its purpose is to effect changes that are not so much quantitative as qualitative in the composition of specialists.

The development of computer technology and all its related fields has another special feature. The work front is expanding very rapidly, embracing more and more spheres of human activity and continually complicating the nature of computer use. Many new specialties are appearing. The traditional, standard methods of instruction according to standardized syllabuses are not suitable here.

For the opening of the courses, the Institutes received standard syllabuses from the U.S.S.R. Ministry of Higher and Specialized Secondary Education. However, from my standpoint, these syllabuses are basically unsatisfactory. Their main fault is the absence of a clear goal – the makeup of the future specialist. Needless to say, there was little time to draw up these syllabuses, and for that one can hardly blame the ministry's personnel. They did what they could, within the framework of their regular responsibilities, when probably a somewhat different approach was required.

Syllabuses are not the main thing that we expect from the ministry. We can draw them up ourselves. We need help in another area. The range of necessary specialties, I repeat, is very broad, and if the system is to work effectively, i.e., if the country is to have an adequate number of specialists in all the necessary occupations, what is required is the precise coordination of the higher schools' work and the distribution of responsibilities, up to and including the issuing of institutes with branches and departments. ...

What we need today is not general education but the purposeful training of specialists with consideration for their future duties.

I realize that this is difficult. The work would be simplified a great deal if a service were set up to place orders for specialists. Even now it is generally agreed that such a service [illegible] be planned. The question is, who will place the orders (and, consequently, who will finance this work). We must not delay coming to a decision on this point, since the incorrect ordering of specialists uses up vast amounts of the people's money.

It is [illegible] that the syllabuses for the training of students and for the refresher training courses be oriented not only toward today's tasks. We must train our specialists today who are mentally and professionally prepared to meet the tasks that will arise tomorrow. Yesterday all that we encountered was the problem of automated management systems. Today the main tasks are connected with the creation of such systems and their software: The higher schools must now produce enough specialists to put into operation 1,500 automated systems during the new five-year plan. But the problems that will apparently become dominant during the following five-year plan can already be seen today. The automation of design work is the foremost of these problems.

The fact is that technical progress leads to the creation of designs of greater and greater complexity. Years, sometimes 10 to 13 years, are necessary for their realization. An understanding is being formed today of how electronic-computer technology may decisively change the traditional technology of design work. The educational system must be farsighted; it must foresee that tomorrow the most crucial demand for skilled cadres will be in just this field.

Foresight is also extremely necessary today in the technical supplying of higher schools. It is clear to everyone that in order to teach advanced methods of the use of electronic-computer technology, one must at least have the right kind of equipment. Nevertheless, many higher schools have extremely poor technical facilities at their disposal, and this situation must be changed quickly.

The strategy of the training and refresher training of specialists in the field of computer use is acquiring paramount significance today. A great many higher schools in the country have now been entrusted with this task. When one studies the list of these higher schools, doubt automatically arises: Will all of them be able to cope with the tasks assigned to them? Of course, they will be able to give lectures on linear programming, ALGOL language and the other elementary questions stipulated in the present ministry syllabuses. But is this necessary? After all, our graduates will have to begin working, and very soon, with equipment that we still don't possess; they will have to solve problems that we, their teachers, still can't solve; and they will have to be transmitters of a culture that is just coming into being today. That is what is necessary! The level of these specialists' training will determine the country's future to a significant extent. For this reason, it is dangerous to scatter our manpower and resources, which, incidentally, are not so large.

We should probably single out several higher schools in the country. We must try to collect the best scientific forces in these educational institutions, give them the most up-to-date equipment, including imported equipment, and make them [illegible] aside for resolving fundamental questions of the choice of direction, the syllabuses and the general nature of training in the field we are discussing. Conditions should be created for instructors from other higher schools to spend training periods at these special schools.

In organizing refresher-training courses, specific problems arise in view of the fact that those who will be taught will not be students but people who are already specialists and are accustomed to certain living conditions. Our Institute, for example, is outside the city, and because of this it experiences difficulties in recruiting students, especially people who are not from Moscow. There is an urgent need to find premises in Moscow for use as classrooms and as a dormitory.

Our faculty includes – and they are not just names on a list, but they actually work, lecturing, administering departments and guiding graduate students and undergraduates writing graduation theses – Academicians A. A. Dorodnitsyn and V. M. Glushkov, [illegible] P. Buslenko, G. S. Pospelov and A. A. Samarsky, corresponding members of the U.S.S.R. Academy of Sciences, and many other major representatives of "computer science." It will be a great pity if one of the most qualified collectives in the field of the application of computer technology cannot be used to full capacity.

Success in fulfilling the plans of the current five-year plan and further prospects depend largely on how efficiently the training of cadres and their instruction in new management and planning methods is organized. There cannot and must not be any "trifles" in this matter. It is necessary to create a harmonious and reliably operating educational system that will give us the necessary number of specialists who are able quickly

MOISEYEV, N.N.

Control systems

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JPRS 55352
16 MAR 72

OPERATIONS RESEARCH - SOME COMPUTATION PROBLEMS OF THE THEORY OF HIERARCHICAL CONTROL SYSTEMS

control systems

[Article by N. N. Moiseyev; Moscow, V Vsesoyuznoye Soveshchaniye po Problemam Upravleniya, Moscow, 1971, Referaty Dokladov, Russian, Part 1, 1971, pp [illegible]-265]

This report has the nature of a review of statements of the computation problemof the theory of hierarchical control systems and the results of this theory which are of a preliminary nature.

In the first part of the report a study is made of the problem of the distribution of exogenic resources in a hierarchical system of given structure under conditions of complete and incomplete information of the 'Center' regarding the goals of the subsystems and the rules for selecting the method of using the resources in the lower links. The investigated class of hierarchical systems is characterized by the fact that the problem is solved in the interests of the "Center." Therefore, we shall call them systems with a full level of centralization.

In the second part, a study is made of the problem of synthesis in hierarchical systems of the centralized type with exogenic resources. It is shown that the redistribution of the resources considered as functions of the state of the subsystem and a random disturbance is an ineffective means for executing the feedback operator. The possibility of using a penalty (or reward) to construct the feedback operator is discussed, and the effectiveness of this structure of the dynamic control is demonstrated.

In the third part of the report, the problem of selecting the structure of the hierarchical system is discussed. This problem is again solved from the point of view of the interests of the Center. The latter indicates that the purpose functional of the Center is used as the criterion.

The problem of selecting the optimal structure is interpreted in terms of planning and design theory. Define the element of the discrete set $m \in M$ -- the set of structures -- and the continuous vector parameter $x_m(t)$ -- the characteristic of the systems maximizing the quality criterion. A search scheme is developed for this problem which combines the method of successive analysis of versions with the methods of steepest descent. Some versions of

MOISEYEV N.N.

Ref. Code: UR 9003

Acc. Nr.: AN0104123

4

TITLE-- ANNOUNCEMENT OF THE COMMITTEE ON LENIN AND STATE PRIZES, U.S.S.R.

NEWSPAPER-- IZVESTIYA, MAY 28, 1970, P 4, COLS 1-5

ABSTRACT-- NINETY ONE BASIC AND APPLIED RESEARCH WORKS HAVE BEEN NOMINATED FOR THE STATE PRIZES. TWO OF THESE, "THE MULTI-RURPOSE INDUSTRIAL HELICOPTER KA-26", BY N. I. KAMOV, V. B. AL,PEROVICH, V. B. BARSHEVSKIY, A. A. DMITRIYEV, G. I. IOFFE, M. A. KUPFER, L. A. POTASHNIK, N. N. PRIOROV, A. G. SATAROV, I. M. VEDENEYEV, S. B. BREN, AND V. A. NAZAROV, AND "THE DEVELOPMENT OF TURBOFAN JET ENGINES NK-8 AND NK-8-4, AND THE DEVELOPMENT AND REDUCTION TO SERIAL PRODUCTION A SYSTEM OF TECHNOLOGICAL PROCESSES WHICH ASSURED WIDE USES FOR TITANIUM ALLOYS", BY N. D. KUZNETSOV, M. T. VASILISHIN, V. A. KURGANOV, P. M. MARKIN, V. D. RADCHENKO, P. A. SUKHOV, A. A. MUKHIN, V. G. SHITOV, G. I. MUSHENKO, L. A. SHKODO, AND G. P. DOLGOLENKO, HAVE BEEN SUBMITTED BY THE MINISTRY OF THE AVIATION INDUSTRY.

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19870555

Acc. Nr.: AN0104123

"A SERIES OF INVESTIGATIONS INTO THE DYNAMICS OF A BODY WITH FLUID-FILLED CAVITIES", /65-68/, BY N. N. MOISEYEV, A. A. PETROV, V. V. RUMYANTSEV AND F. L. CHERNOUS,KO AND "ULTRA HIGH PRECISION JIG BORING MILLS WITH 1,000 X 1,600 AND 1,400 X 2,240 MM PLATENS", BY A. I. KIR,YANOV, V. G. ABRAMOVICH, I. V. GUTKIN, A. S. ALIMPIYEV, G. B. PAUKOV, AND A. S. YEGUDKIN, HAVE BEEN SUBMITTED BY THE COMPUTATION CENTER OF THE ACADEMY OF SCIENCES AND THE MINISTRY OF THE MACHINE TOOL CONSTRUCTION AND TOOL INDUSTRY, RESPECTIVELY.

"THE RADICALLY IMPROVED MELTING TECHNOLOGY OF CRITICAL-PURPOSE HIGH-ALLOY STEELS AND ALLOYS OF IMPROVED QUALITY ACHIEVED BY THE INERT GAS TREATMENT OUTSIDE THE FURNACE", BY YU. V. GERASIMOV, O. M. CHEKHOMOV, N. V. SIDOROV, S. K. FILATOV, B. A. CHEREMNYKH, R. M. KHAYRUTDINOV, I. P. BARMOTIN, L. K. KOSYREV, K. P. BAKANOV, N. N. VLASOV, P. I. MELIKHOV, AND N. A. TULIN, HAS BEEN SUBMITTED BY THE ZLATOUST METALLURGICAL PLANT.

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Reel/Frame
19870556

AN0012624

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original examined; says Deputy Director

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27

TITLE-- ARE THE MACHINES THE COMMANDERS/QUES/

NEWSPAPER-- KOMSOMOL,SKAYA PRAVDA, JANUARY 18, 1970, P 2, COLS 4-6

ABSTRACT-- IN AN INTERVIEW GIVEN TO GOLOVANOV, NIKITA NIKOLAYEVICH MOISEYEV, DIRECTOR, COMPUTATION CENTER OF THE SOVIET ACADEMY OF SCIENCES, REVEALED THAT A SCHOOL OF MANAGEMENT AND APPLIED MATHEMATICS WAS ESTABLISHED AT THE MOSCOW PHYSICAL-TECHNICAL INSTITUTE SIX MONTHS AGO. THE NEW SCHOOL IS HEADED BY MOISEYEV WHO ALSO HEADS THE CHAIR OF THE THEORY OF OPERATIONS AND MANAGEMENT. THE SCHOOL,S CHAIR OF INFORMATION SYSTEMS IS HEADED BY ACADEMICIAN V. M. GLUSHKOV, ACADEMICIAN A. A. DORODNITSYN, AND CORRESPONDING MEMBER OF THE ACADEMY A. A. SAMARSKIY ARE TEACHING THE APPLICATION OF COMPUTERS IN PHYSICS. CORRESPONDING MEMBER OF THE ACADEMY G. S. POSPELOV TEACHES A COURSE IN THE DESIGN AND ANALYSIS OF LARGE SYSTEMS. THE THEORY OF LARGE SYSTEMS IS GIVEN BY CORRESPONDING MEMBER OF THE ACADEMY N. P. BUSLENKO.

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19571518

1/2 032 UNCLASSIFIED PROCESSING DATE--27NOV70

TITLE--MECHANISM OF THE WORK HARDENING OF HARDENED STEEL DURING DEFORMATION AGING -U-

AUTHOR-(03)-BABEY, YU.I., MOISEYEV, R.G., KUKLYAK, M.L.

M

COUNTRY OF INFO--USSR

SOURCE--FIZ.-MEKH. MATER. 1970, 6(1), 100-2

DATE PUBLISHED-------70

SUBJECT AREAS--MATERIALS

TOPIC TAGS--METAL AGING, ALLOY DESIGNATION, CHROMIUM STEEL, ALLOY COMPOSITION, IMPACT STRENGTH, METAL INTERNAL FRICTION, CYCLIC ENDURANCE LIMIT, TORSION STRESS, METAL DEFORMATION/(U)40KH CHROMIUM STEEL

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--3001/0331 STEP NO--UR/0369/70/006/001/0100/0102

CIRC ACCESSION NO--AP0126087

UNCLASSIFIED

2/2 032 UNCLASSIFIED PROCESSING DATE--27NOV70

CIRC ACCESSION NO--AP0126087

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. STEEL 40KH (C 0.36, MN 0.7, SI 0.24, S 0.024, P 0.018, CR 0.90, AND NI 0.14 WT PERCENT) AFTER QUENCHING IN OIL FROM 850DEGREES AND TEMPERING FOR 2 HR AT 180DEGREES, WAS DEFORMED BY TORSION (0-4PERCENT) AT 8-10DEGREES-MIN, HELD IN THE STRESSED STATE FOR 5-7 MIN, AND UNLOADED AT THE SAME RATE. DEFORMED SPECIMENS WERE AGED FOR 2 HR AT 100DEGREES, AND AFTERWARDS THE IMPACT STRENGTH, INTERNAL FRICTION, AND ENDURANCE WERE DETD. THESE PROPERTIES WERE ALL INCREASED WITH DEFORMATION DEGREE UP TO 2DEGREES, AND WITH LARGER DEFORMATION DEGREES THESE PROPERTIES DECREASED, TO INITIAL OR BELOW INITIAL VALUES. TORSIONAL DEFORMATION WITH SUBSEQUENT AGING CAUSED THE FORMATION OF CONSIDERABLE RESIDUAL STRESSES (150-250 KG-MM PRIME2) IN SURFACE LAYERS OF TESTED SPECIMENS, WHICH CONTRIBUTED TO THE INCREASE OF CYCLIC STRENGTH OF DEFORMED AND AGED STEEL.

FACILITY: FIZ.-MEKH. INST., LVOV, USSR.

UNCLASSIFIED

1/2 007 UNCLASSIFIED PROCESSING DATE--23OCT70

TITLE--EFFECT OF PRESERVATION ON STEROID ALKALOIDS IN NIGHTSHADE RAW MATERIAL -U-

AUTHOR-(02)-MOISEYEV, R.K., KLYSHEV, L.K.

M

COUNTRY OF INFO--USSR

SOURCE--VESTN. AKAD. NAUK KAZ SSR 1970, 26(1), 55-7

DATE PUBLISHED-------70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--ALKALOID, PROCESSED PLANT PRODUCT

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1999/0410 STEP NO--UR/0031/70/026/001/0055/0057

CIRC ACCESSION NO--AP0122590

UNCLASSIFIED

2/2 007 UNCLASSIFIED PROCESSING DATE--23OCT70
CIRC ACCESSION NO--AP0122590
ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. NIGHT SHADE (SOLANUM LACINIATUM (AVICULARE)) LEAVES OF THE SAME AGE WERE DRIED AT 110-150DEGREES FOR 10-15 MIN AND STORED UNDER MENDELYEEV'S CEMENT (PLASTIC SEALING COMPD. PREPD. BY FUSING WAX, PARAFFIN, COLOPHONY, AND POWDERED FE SUB2 O SUB3) OR IN THE PRESENCE OF H SUB2 SO SUB4 (PH 3.5-4.0) OR NA SUB2 S SUB2 O SUB5. LEVELS OF SOLASODINE, SOLAMARGINE, AND TOTAL ALKALOIDS WERE DETD. IN THE LEAVES AFTER 4 OR 9 MONTHS AND FOUND TO BE NO DIFFERENT FROM THE INITIAL VALUES.

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USSR

UDC 519.95

SHEVYAKOV, N. N., BRYUKHANOV, V. A., MOISEYEV, A. A., MOISEYEV, S. G., and SULTAN

"Evaluation of the Coefficient of Technical Utilization of Complex Automatic Lines by the Method of Statistical Modeling"

Moscow, Avtomatizatsiya Operatsiy Proyektirovaniya Protsessov Mashinostroyeniya (Automation of Operations in the Design of the Processes of Machine Building), edited by V. I. Dikushin, "Nauka," 1970, pp 123-134

Abstract: One of the most important problems that arises in designing automatic lines with a complex structure is determination of the coefficient of technical utilization. Existing methods of analytical computation are based on a number of assumptions which make it possible to decrease the order of the system of differential equations involved but which introduce a divergence from the real coefficient of technical utilization. In the present article, an algorithm for investigating this coefficient for a complex automatic line is suggested. The algorithm, which is based on the method of statistical modeling on a computer (Monte-Carlo method), makes it possible to eliminate a number of assumptions and to reduce a variety of problems to a small number of general-purpose computational procedures.

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SHEVYAKOV, N. N., et al., Avtomatizatsiya Operatsiy Proyektirovaniya Protsessov Mashinostroyeniya (Automation of Operations in the Design of the Processes of Machine Building), edited by V. I. Dikushin, "Nauka," 1970, pp 123-134

As an example, the statistical modeling method is applied to a single-flow, interlinked automatic line with one adjuster and which consists of n aggregates. After briefly describing the mathematical model which they adopted and the basic assumptions which it necessitated, the authors present and explain a flowchart of the modeling algorithm.

Next, on the basis of their mathematical model, they developed an algorithm for investigating the coefficient of technical utilization of an automatic line consisting of n flows, q segments, and a adjusters. A two-page flowchart of the algorithm is presented. In order to verify the algorithm as a whole, the authors considered systems for which it is possible to find precise analytical solutions. The analytical solutions and the results obtained by modeling diverged at most by one to three percent.

2/2

USSR UDC 533.9

VISHNEVETSKIY, V.N., VOYTENKO, D. A., VOLKOV, YE. D., DIKIY, A. G., ZALKIND, V. M., KONOTON, P. I., MOISEYEV, S. S., PAVLICHENKO, O. S., PASHNEV, V. K., SUPRUNENKO, V. A., TOLOK, V. T., TERESHCHENKO, F. F., TONKOPRYAD, V. M., and TARASENKO, V. P., Physico-Technical Institute of Academy of Sciences Ukrainian SSR, Kharkov

"Energy Losses of Plasma in a 'Uragan' Stellarator With Large Shear"

Kiev, Ukrainskiy Fizicheskiy Zhurnal, Vol 16, No 8, Aug 71, pp 1320-1323

Abstract: Investigations of the rate of energy losses in plasma have shown that the holding time of particles significantly exceeds the energy life time when the plasma is of collision type. This article discusses the results of investigations on the rate of energy losses of collision-type plasma for the "Uragan" stellarator. The authors study the dependence of energy life time of the plasma on the amount of shear and the angle of conversion. They make extensive use of graphs to illustrate their findings and find that the experimental points lie on a straight line. The authors conclude that the results may be explained on the basis that a temperature-drift instability develops in the plasma. The article contains 5 figures and 8 bibliographic entries.

1/1

1/2 018 UNCLASSIFIED PROCESSING DATE--20NOV70

TITLE--APPLICATION OF THE VARIATIONAL METHOD FOR STUDYING DISSIPATING
INSTABILITY IN A PLASMA -U-

AUTHOR-(03)-KOGAN, YE.YA., MOISEYEV, S.S., ORAYEVSKI, V.N.

M

COUNTRY OF INFO--USSR

SOURCE--ZHURNAL TEKHNICHESKOI FIZIKI, VOL. 40, APR. 1970, P. 711-716

DATE PUBLISHED--------70

SUBJECT AREAS--PHYSICS

TOPIC TAGS--PLASMA INSTABILITY, MAGNETIC FIELD EFFECT

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--2000/1320 STEP NO--UR/0057/70/040/000/0711/0716

CIRC ACCESSION NO--AP0124971
UNCLASSIFIED

CIRC ACCESSION NO--AP0124971

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. ESTIMATION OF THE STABILITY OF DISSIPATING SYSTEMS, SUCH AS A PLASMA, USING A GENERAL RELATION BETWEEN THE ENERGY BALANCE OF THE WAVE AND THE MEDIUM. THE TRANSFORMATION OF THE SUYDAM CRITERION FOR NONIDEAL MHD IS EXAMINED. A STUDY IS ALSO MADE OF THE INSTABILITY IN SYSTEMS WITH A CORRUGATED CURVATURE OF THE MAGNETIC FIELD FORCE LINES. WHERE POSSIBLE, TWO DIFFERENT VARIATIONAL APPROACHES TO THESE PROBLEMS ARE COMPARED. FACILITY: AKADEMIIA NAUK UKRAINSKOI SSR, INSTITUT FIZIKI, KIEV, UKRAINIAN SSR.

1/2 016 UNCLASSIFIED PROCESSING DATE--04DEC70
TITLE--ANISOTROPY OF MANGANESE TUNGSTATE -U-

AUTHOR-(03)-MOISEYEV, V.A., ZVYAGIN, A.I., NESTERENKO, N.M.

COUNTRY OF INFO--USSR

M

SOURCE--FIZ. TVERD. TELA 1970, 12(5), 1551-2

DATE PUBLISHED--------70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--ANISOTROPY, EPR, MANGANESE COMPOUND, TUNGSTATE, HYPERFINE
STRUCTURE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--3005/0964 STEP NO--UR/0181/70/012/005/1551/1552

CIRC ACCESSION NO--AP0133050
UNCLASSIFIED

2/2 016 UNCLASSIFIED PROCESSING DATE--04DEC70
CIRC ACCESSION NO--AP0133050
ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE 1 ION ANISOTRPY OF MNWO SUB4 WAS EVALUATED BY ANAL. OF THE PER LINE OF MN PRIME2 POSITIVE MEASURED AT 30 GHZ AT ROOM TEMP. THE LINE WAS ANALYZED BY THE METHOD OF MOMENTS UNDER THE ASSUMPTION OF ANISOTROPIC EXCHANGE INTERACTION AND WITHOUT CONSIDERATION OF BROADENING OF THE HYPERFINE STRUCTURE, WHICH IN THIS CASE IS SMALL IN COMPARISON WITH DIPOLE DIPOLE BROADENING.
FACILITY: FIZ. TEKH. INST. NIZKIKH TEMP., KHARKOV, USSR.

UNCLASSIFIED

Materials

USSR UDC 620.10

GELLER, YU. A., Doctor of Technical Sciences, Professor; YEVTUSHENKO, A. T., Aspirant; MOISEYEV, V. F., Candidate of Technical Sciences, Docent, Moscow Institute of Machine Tools and Instruments

"Study of the Effect of the Composition and Structure of Die Steels on Wear Resistance Under Shock-Abrasive Wear"

Moscow, Izvestiya vysshikh uchebnykh zavedeniy, Mashinostroyeniye, No. 12, 1971, pp 109-115

Abstract: Die steels of the basic structural classes 5KhNV, 6KhZFS, 7KhG2VM, Kh6VF, Kh12F1 and Kh12M were studied since many dies are used under shock-abrasive conditions and data for determining a rational selection of the steel and its heat treatment are not available. The hardness of the steels was varied by heat treatment from 38 to 625 HRC and viscosity varied from 0.5 to 7.0 kGm/cm^2. The steels also differed in the amount of residual austenite and the carbide phase. The wear resistance was determined under shock-abrasive wear on the basis of attached abrasive particles under a shock energy of 0.75 and 2.0 kGm from the weight loss and character of the wear. The study showed

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GELLER, YU. A., et al, Izvestiya vysshikh uchebnykh zavedeniy, Mashinostroyeniye, No. 12, 1971, pp 109-115

that the wear resistance of alloyed die steels under shock-abrasive wear is determined by the total effect of the hardness, viscosity, the amount of the carbide phase, and the residual austenite. The hardness effect was the most considerable. An increase in it with a fixed quantity of carbides and austenite in the structure is accompanied by a rise in wear resistance. An increase in viscosity achieved by isothermal tempering, i.e., without grain growth and a drop in hardness, improves wear resistance. The effect of the carbide phase is the function of the hardness and viscosity of the steel: it improves the wear resistance at high hardness (59-60 HRC) and somewhat reduces it at lower hardness (49-51 HRC). Results have shown that an increase in the amount of austenite improves the wear resistance if the austenite retains sufficient stability under cooling to -60°C. The greatest wear resistance is exhibited by alloyed die steel at 0.6% C.

USSR UDC: 669.018.4:621.785.78:546.261

GELLER, YU. A., MOISEYEV, V. F., ARANOVICH, A. O., and LEVINA, K. YA.,
Moscow Machine Tool Institute

"Effect of the Carbide Phase on the Properties of Chromium Tool Steels"

Moscow, Izvestiya Vysshikh Uchebnykh Zavedeniy, Chernaya Metallurgiya, No 1, 1971, pp 145-148

Abstract: The effect of vanadium (1-4%) on the structure and properties of steels containing 3.6 and 12% Cr and 1.0-1.9% C has been studied. It was found that vanadium forms independent carbides at carbon concentrations above 1.6% with 12% Cr, at C concentrations of 1.1 and 0.85% with 6 and 3% Cr, respectively. In steels with lower carbon concentrations, vanadium dissolves in chromium carbides. Due to their high hardness (2200 HV), vanadium carbides raise the wear resistance of the steel and, by reducing the grain size, increase the steel's strength. When present in chromium carbides, vanadium (on hardening) goes into solid solution, causing the

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GELLER, YU. A., et al, Izvestiya Vysshikh Uchebnykh Zavedeniy, Chernaya Metallurgiya, No 1, 1971, pp 145-148

tendency of the steel to precipitation hardening on tempering at 540-560°C, which increases the strength but markedly decreases the steel's ductility (to a fraction of 2-3). Tables in the original article show the chemical composition of the experimental steels, the amount of the carbide phase, and the composition of carbides and the solid solution (as annealed). A figure demonstrating the effect of the hardening temperature on the strength of steel on bending after tempering at 150°C with 3, 6, and 12% Cr is also given.

2/2

USSR UDC: 621.397.335.29

MOISEYEV, V. K., FOMIN, P. P., ZHOVTIS, I. M., KOZLOVSKAYA, A. V.

"A Device for Automatically Locking on and Tracking Video Pulses"

Moscow, Otkrytiya, izobreteniya, promyshlennyye obraztsy, tovarnyye znaki, No 18, Jun 71, Author's Certificate No 305598, Division H, filed 11 Aug 69, published 4 Jun 71, p 197

Translation: This Author's Certificate introduces a device for automatically locking onto and tracking video pulses for automatically putting a pulse tracking system in the tracking mode of operation. The device contains a time modulator, a selector gate generator, a time discriminator with accumulation and two data transcribing oscillators, a trigger prf divider, a pulse generator for recording information on the time modulator, and a lock-on flip-flop. As a distinguishing feature of the patent, the system for locking onto the video pulses is simplified by connecting a delay device and two coincidence circuits in the trigger circuit for the selector gate generator. The pulse input of one of the coincidence circuits is connected directly to the output of the time modulator, and the pulse input of the second coincidence circuit is connected through a delay element to the output of the time modulator. The potential inputs of these coincidence circuits are connected to the outputs of a commutator whose pulse outputs are connected to the recording pulse generator and to the input of the gate generator for transcription of lock-on pulses. The output of this generator is connected through a differentiating circuit to one input of the lock-on flip-flop, and a signal from the time discriminator is sent to the other input of this flip-flop.

2/2

USSR UDC 621.372.413:621.372.8

BATURA, V. G. and MOISEYEV, V. K.

"A Fabry-Perot Resonator for Measuring the Parameters of Dielectrics in a Millimeter Range Within the Temperature Interval of 200-900°K"

Moscow, Pribory i Tekhnika Eksperimenta, No 3, May-June 1973, pp 136-138

Abstract: A description is given of the design of a Fabry-Perot resonator with plane reflectors, which is used for measuring the parameters ε and tg δ of dielectrics in the millimeter range within the temperature interval of 200-900°K. The specimen to be measured is heated or cooled by means of interchangeable thermocryostats that are placed together with the specimen on a movable reflector. This permits simplification of the resonator design, and allows changes of the intrinsic parameters of the measuring system to be decreased within the operational temperature interval. The absence of side walls in the open resonators makes it necessary to provide thermostatic regulation only of the reflector on which the dielectric specimen has been placed. 4 figures. 7 references.

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AA0043467

UR 0482

Soviet Inventions Illustrated, Section II Electrical, Derwent, 1/10

242503 IMPULSE MODULATOR contains registering winding 1, compensating winding of computing, diodes 3 and 4, compensation windings 5 and 6, current limiting resistor 7, computing windings 8 and 9, discharge winding 10, bias windings 11 and 12, source of remagnetised voltage, lead in signal 14, magnetic transflux conductor 15.
3.6.67 as 1164406/26-24. V.K.MOISEEV (11.9.69)
Bul 15/25.4.69. Class $42m^4$, $21a^1$. Int.Cl.G 06g, H 03k.

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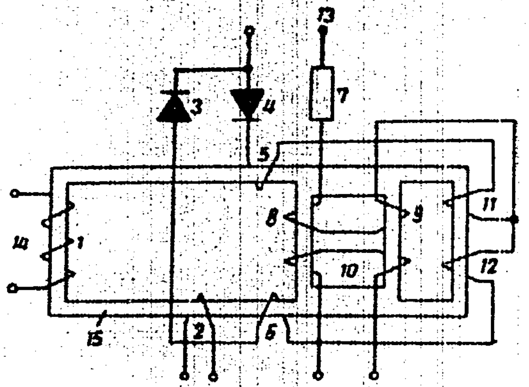

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19761835

USSR UDC 669.245.018.44

DOLZHANSKIY, YU. M., MOISEYEV, V. N., SIBILEVA, L. I., and TERENT'YEV, L. N.,
All-Union Scientific Research Institute of Aviation Materials

"Investigation of the Statistical Principles of the Effect of Alloying Elements on the Mechanical Properties of Alloys in the Ti-Al-Mo-V System (Type VT16)"

Ordzhonikidze, Izvestiya Vysshikh Uchebnykh Zavedeniy--Chernaya Metallurgiya, No 4, 1973, pp 132-137

Abstract: Studies were made to find the statistical principles for the relationship of the mechanical properties of type VT16 alloys in the annealed and thermally strengthened states to alloy content of Al, Mo, V for three basic forms of heat treatment: annealed, quenched and aged to a tensile strength (TS) greater than or equal to 105 kg/mm^2, and quenched and aged to a TS greater than or equal to 125 kg/mm^2. As the experiment plan, matrix PFE 23 was selected for the following levels of alloying element concentration changes: Al-1.0 and 3.0%, Mo-2.0 and 6.0%, and V-2.0 and 6.0%. Analysis of models for strength and ductility led to the following conclusions. For the manufacture of fasteners, operating under shear, it is recommended to use alloys of average composition: Al $\approx$ 2.0%, Mo $\approx$ 6.5%, and V $\approx$ 4.0% or Al $\approx$ 3.5%, Mo $\approx$ 5.0% and V $\approx$ 4.0%. It was established that these alloys, made from titanium sponge TG-100, ensure a shear strength $\approx$ 64 kg/mm^2 at a level of reduction in area greater than or

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DOLZHANSKIY, YU. M., et al., Izvestiya Vysshikh Uchebnykh Zavedeniy--Chernaya Metallurgiya, No 4, 1973, pp 132-137

equal to 60%. For fasteners, operating in tension, it is recommended to employ alloys of an average composition: Al $\approx$ 2.5%, Mo $\approx$ 4.5%, and V $\approx$ 4.5%. An alloy with this composition will have a TS equal to or above 110 kg/mm^2 with a reduction in area value of $\approx$ 60% when heat treated as follows: annealed at 780°C for two hours + quenched from 820°C in water for two hours + aged at 570°C for eight hours. For force parts with mechanical properties at a level of TS $\geqslant$ 125 kg/mm^2 and reduction in area $\approx$ 55-58%, it is recommended to heat treat this alloy by quenching from 780°C for one hour in water + aging at 500°C for 16 hours. 3 figures, 2 tables.

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